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ORIGINAL LECTURES.

THE SYMPTOMS AND DIAGNOSIS OF MULTIPLE NEURITIS; WITH REPORTS OF CASES.

Based on a Clinical Lecture Delivered at the New York Post-Graduate Medical School, January 18, 1887.

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A very good description of multiple neuritis was given by Leyden in 1881, again by Piersson in 1883, and by Strümpell in his "Text-book on Medicine." Dr. X. Francotti, in 1886, described it well; so also did Dr. Buzzard in the Harveian Lectures for 1885. Dr. Gowers gives a very complete account of the disease in his recently published text-book on nervous diseases. Dr. M. Allen Starr will no doubt cover the whole ground in the most thorough manner in the Middleton Goldsmith Lectures on this subject, now forthcoming.

I venture to give here some notes on the history of this new development in neuro-pathology, since it has made such a change in some of the conceptions of paralytic disorders. Dumenil, in 1864, reported[1] a case running a course of four and one-half months, and having the type of the subacute spinal paralysis of Duchenne. The autopsy showed diffuse lesion of the nerves, the brain and cord being normal. A second case,[2] with post-mortem examination, ran a course of several years, and started from a contusion of the sciatic. Eichhorst's case[3] came next. It was like one of acute ascending paralysis, of six weeks' duration, except that there was pain and sensory disturbance. Autopsy showed acute inflammatory nerve trouble, not a simple degeneration. Then Déjerine reported a case also resembling acute ascending paralysis. He found also neuritis, including some changes in the anterior roots. Neither Eichhorst's or Déjerine's cases are very complete. Eisenlohr[4] reported a case of subacute paralysis and autopsy. The cord was normal, the sciatic showed parenchymatous and interstitial neuritis.

Joffroy contributed a very elaborate paper to the *Arch. de Phys. Normale et Path.*, No. 2, 1879. He describes: 1. Spontaneous parenchymatous neuritis. 2. Neuritis from lead poisoning. 3. Neuritis in the course of infectious diseases. Under the first division he describes cases of multiple degenerative neuritis, with autopsy. Lancereaux reports a case of this kind occurring in phthisis, as do Desnot and Pierret.

In 1880 Leyden[5] summed up the work of his predecessors, and reported a case of his own, with autopsy. He gave a systematic clinical history of the disease, and one which is still quite correct. Leyden was followed by Melchert.[6]

In 1882 Scheube, and in the same year Baelz, showed that the nerve symptoms of beri-beri were due to a multiple neuritis.[7] Koeniger,[8] writing on this same subject in 1882 and 1884, alleged that the neuritis was only a complication. Ballet, in 1883,[9] found atrophy of the anterior cornua in beri-beri—nerves not examined. Harada[10] found neuritis and degenerative changes also in anterior nerves in dorsal and lumbar regions. M. P. Mendes[11] found lesions in the nuclei of the columns of Goll, and in the posterior columns, especially, of the cervical and lumbar cord there was atrophy of cells and parasites in vessels; also a neuritis as far up as the spinal ganglia. Tschowski[12] reported several cases, with autopsy in three. He found multiple neuritis, and also atrophic cells in the lumbar cord.

After Leyden's communication there were soon published a large number of cases, by Hiller,[13] Granger Stewart,[14] Eichhorst,[15] Strümpell,[16] Müller,[17] Vierordt.[18] Piersson wrote[19] a systematic monograph on the subject in 1883.

Roth, in 1883, reported[20] a case of acute general paralysis, with autopsy, showing extensive parenchymatous and interstitial neuritis. Dr. S. G. Webber, of Berlin, reported some cases in the *Archives of Medicine*, Vol. xii, p. 33. See also articles by

[1] Gaz. Hebd., 1864, No. 13.
[2] Ibid., 1866, Nos. 4, 5, 6.
[3] Virchow's Archiv, Vol. 69.
[4] Centralb. für Nervenheilk, 1879, and Deut. Arch. für klin. Med., Bd. 25, 1880.
[5] Charité-Annalen, 1880, and in Zeit. f. klin. Med., 1880.
[6] Inaug. Dissertation, 1881; Greifswald. Beitrag zur Diagnose der subacute Poliomyelitis u. Multiple-neuritis.
[7] Zeits. f. klin. Med., 1882, Bd. iv, p. 616, and Virchow's Archiv, 1884, p. 146, Bd. 95, and p. 531, Bd. 99.
[8] Deuts. Archiv f. klin. Med., Bd. 31, pp. 141, 307; Bd. 32, p. 83; Bd. 34, p. 419.
[9] Proc. de la Société Anatomique.
[10] Neurol. Centralblatt, 1885, p. 326, two cases.
[11] Prog. Méd., No. 14, 1885.
[12] Neur. Centralb., 1886, p. 484.
[13] Berlin. klin. Wochenschr., 1881, No. 41.
[14] Edinburgh Med. Journal, 1881.
[15] Archiv. f. Psych. u. Nervenk., Bd. xiv, p. 695. [16] Ibid., p. 339.
[17] Ibid., p. 668. [18] Ibid., p. 678.
[19] Ueber Polyneuritis acuta, Volkmann's Samml. klin. Vort., No. 227, 1883.
[20] Correspondenzbl. f. Schweize Aerzte, 1883, No. 13.

Eisenlohr,[21] Strümpell,[22] Moeli,[23] Hirt,[24] Löwenfeld,[25] E. Remak,[26] Grocco,[27] and Oppenheim.[28]

The relation of alcoholic paralysis was studied by Strümpell,[29] by Dr. Dreschfeld,[30] and by Schultz.[31] These writers give a full history of this special subject up to the date of this writing.

The relation of arsenical paralysis to neuritis was studied by the writer, and a full account of it given in *Brain*, January, 1887. In the same article the history of the relation of lead-poisoning and of diphtheria to multiple neuritis is given. In the past year a number of additions to our knowledge have been made, all of which are to be summarized and presented by Dr. Starr in the lectures referred to.

In a thesis entitled "Des Pseudo-tabes," by L. Leval-Picqueche (Paris, 1885), a very complete history of this form of multiple neuritis, from various causes, is given. Dr. Starr has also called my attention to a very complete work entitled "Paralysis Toxiques," by Broussais, of Paris.

The symptoms of multiple neuritis develop in two forms; 1st, those of atrophic motor paralysis with subsidiary sensory changes; 2d, those of ataxia and other sensory disturbances with only moderate motor paralysis. The motor form is the more common. The sensory or ataxic form occurs chiefly as the result of poisons or the infection of diphtheria.

The Atrophic Motor Form.—The symptoms generally come on rather suddenly, and are sometimes accompanied with fever, which may reach 103° to 104° F. The patient suffers from feelings of numbness, prickling or burning in the feet and ends of the fingers. These sensations gradually extend up the extremities, but rarely reach the knee or elbow. They are accompanied by sharp pains and feelings of weakness, and the paralysis steadily increases until the patient is unable to walk or use his hands. The lower extremities are oftenest and most seriously affected, the upper extremities next, and the muscles of the face and trunk least often of all. The flexors of the foot and the extensors of the hands are particularly attacked. The paralyzed muscles speedily become atrophied. The bladder and rectum are not affected. The sexual power is lessened. The pulse is generally quite rapid, owing, perhaps, to involvement of the vagus.

On making a physical examination the skin is generally found hyper-æsthetic, and yet there may be some tactile, thermal and pathic anæsthesia. Later this generally develops. Pressure along the course of the nerves and over the muscles causes much pain, as do muscular movements.

Electrical examination of the muscles shows generally a partial degenerative reaction, the muscles being less irritable than normal to both galvanic and faradic currents. The contractions are sluggish, but it is not common to get polar changes. The nerves show also diminished electrical sensibility, but furnish no positive indications of neuritis as against polio-myelitis, though perhaps their irritability is less. There are not usually any marked vaso-motor phenomena except œdema. Sometimes the secretion of sweat is profuse, and in arsenical cases I have seen the feet and hands shed the epidermis as if it had been raised by a blister.

The disease reaches its height in two or three weeks, or even less. The symptoms then gradually ameliorate, and the rule is a progressive improvement ending in cure in four to six months. In some cases the spinal cord apparently becomes involved, and the sphincters are paralyzed; diabetes and various other central symptoms appear.

Some cases of multiple neuritis run a very acute course, and present the symptoms of acute ascending spinal paralysis (Landry's paralysis). Other rare cases present a slowly progressive course lasting three or four years, *e.g.*, Dumenil's case.

These types are different clinically and etiologically from the disease ordinarily known as subacute multiple neuritis.

The Sensory or Ataxic Form is spoken of by Gowers as rare, but I have seen quite a number of illustrations of it. Here the symptoms begin with burning, tingling sensations in the feet and hands, especially the former. The patient notices that his gait is uncertain. The tendon reflexes disappear, the limbs are partially anæsthetic, or areas of anæsthesia are found. There is a moderate degree of motor weakness and atrophy. In a few days the patients may develop nearly all the symptoms of locomotor ataxia. These cases are generally of toxic origin. They run a subacute course, about as does the motor form.

The symptoms may be summarized as follows: Prodromic period in some cases of several weeks characterized by some numbness and lumbar pains. Rather brusque onset, sometimes with pain.

Motor Symptoms: Progressive symmetrical paralysis, ascending, and affecting lower limbs most and oftenest. Paralysis flaccid, atrophic and painful. Partial degeneration-reaction. Abolition of knee-jerk as a rule, and of skin reflexes in paralyzed limbs.

Trophic Symptoms: Muscular atrophy; œdema; rarely erythema, eczema, herpes, changes in nails and skin, local asphyxia and gangrene.

Sensory. Parasthesia; especial characteristics are burning sensations, pains of both darting and dull character, worse on movement; tenderness in limbs, and especially over course of nerves. Later some anæsthesia, general or over distribution of nerves.

Cranial Nerves: In rare cases only affected, but optic neuritis is not very rare. Rapid pulse from involvement of the vagus sometimes occurs. Sphincters not involved as a rule.

The termination is usually favorable, but death may come on unexpectedly.

Further details in the history will be brought out in the report of the following cases. These I will give here only in synopsis.

Case 1.—Alcoholic Multiple Neuritis. Sensory

[21] Neur. Centralbl., 1884, Nos. 7, 8.
[22] Ibid., 1884, No. 11.
[23] Charité-Annalen, Vol. ix, 1884.
[24] Neurolog. Centralbl., 1884, No. 21.
[25] Ibid., 1885, No. 7. [26] Ibid., No. 14.
[27] Contrib. alla stud. clin. ed anat.-path. delle Nerv. mult. prim., 1885.
[28] Deutsches Archiv f. klin. Med., 1885, Bd. 36, p. 561.
[29] Krankheiten des Nervensystems, p. 121, and Berlin. klin. Woch., 1885, No. 32.
[30] Brain, 1884, July *et seq.*
[31] Neurolog. Centralbl., Nov., 1885.

Form.—The patient, a bar tender, had always been healthy, and gave no history of syphilis. In the past year he had indulged excessively in sexual intercourse, but still more excessively in alcohol, and after having been on several sprees he was taken to the hospital suffering from delirium tremens. This developed into mania, and he was confined in the asylum for several weeks. During this time he became partially paralyzed, but improved and was discharged. When seen by me soon after, he presented the symptoms of a man in the early stage of locomotor ataxia, except that he had no eye symptoms, girdle pains, bladder or marked sexual trouble. There was marked ataxia, parasthesia, areas of anæsthesia, loss of tendon reflex, some motor weakness. I learned that he later did develop some central symptoms, which lead me to think that the cord became also involved.

Case 2.—Alcoholic Multiple Neuritis. Motor and Atrophic Form..—This patient I saw at Bellevue Hospital, while visiting for Dr. Tuttle, and have shown him several times to my class. The patient was a young man aged 23 years, who for over a year had indulged nightly in sexual intercourse and very excessively in whiskey-drinking. While playing ball one day he noticed a weakness in his legs. This increased in a few days, and he was now obliged to take to his bed. When seen by me he presented the usual symptoms of alcoholic paralysis. His lower limbs were alone affected, while here the flexors of the foot were especially attacked. The feet dropped, and at one time could scarcely be moved at all. There was partial degeneration-reaction. The legs were much atrophied and there was some anæsthesia, but not much pain. There was no ataxia. The knee-jerk was abolished. The sphincters were normal. The patient got worse for several weeks, then began slowly to recover. At the end of six months he could barely walk with help. His mind remained clear.

Case 3.—Multiple Neuritis from Arsenical Poisoning. Sensory or Ataxia Form.—I have shown the class two patients who suffered from multiple neuritis of this type (published in full in *Brain*, January, 1887). In one the patient, a young man of 25, took a poisonous dose of Paris green. Within a week he had developed very characteristic symptoms of pseudo-tabes, or arsenical ataxia. The symptoms were burning in the feet and hands, extreme ataxia, some tactile anæsthesia of limbs, combined with extreme hyperæsthesia and tenderness, especially over the course of the nerves; peeling of the skin of feet and hands; pains in the legs, especially on movement; optic neuritis; partial degeneration-reaction; moderate paresis and atrophy; no girdle pains, no sphincter paralysis, no involvement of face or eye muscles. Mind clear, but patient nervous and hysterical. There was gradual improvement up to a certain point, then the symptoms remained stationary for many months.

Case 4.—In the second case the patient, a man of 45, was taking Fowler's solution in daily doses of ℥iss, and he gradually developed a pseudo-tabes similar to that above recorded, but milder in type. His symptoms, too, improved, and he was finally left with simply an annoying numbness of the feet and finger tips. Two other cases have since come under my notice.

Case 5.—Multiple Neuritis from an Infection of Beri-beri.—This case occurred in the service of Dr. Roosevelt at Bellevue Hospital, and through his kindness I was able to show it to my class. The case has been reported in full by Dr. Roosevelt, and will soon be published; so I will not give the details here. The patient, a sailor, after suffering several weeks from the anæmia and anasarca characteristic of the "wet form" of beri-beri, gradually developed a paralysis of the lower extremities. The flexors of the foot were most affected. The paralysis gradually involved the muscles of both legs, but to a much less degree those of the thigh. There was some pain and paræsthesia, but little other disturbance of sensibility. The muscles atrophied and showed in one leg partial, in the other complete, typical degeneration reaction. The paralysis progressed very slowly for a few weeks, then slowly improved. Judging from some of the recorded histories, beri beri may also produce a sensory or pseudo-tabetic form of the disease, but it appears to me that the multiple neuritis is not the disease, but is only one of the symptoms, or in some cases one of the sequelæ.

Case 6.—Multiple Neuritis from Rheumatic Cause.—There is no doubt that multiple neuritis may be caused by what is known as rheumatic influences; and the following case seems to illustrate it, although I confess that the diagnosis can not be made positively:

M. D. G., a Jewish ex-Rabbi, age 29, married, of Russian birth, had always been healthy, but had greatly overtaxed himself a few years ago by study. His present occupation is that of a peddler. About two months before he was seen by me he had been much exposed to cold and wet. He felt one day a great weakness coming on in the lower extremities, and to a less extent in the arms. He felt also numbness, prickling, and dead, heavy sensations in the extremities. All this increased until in a day or two he could hardly walk, and could not go up stairs. About this time he had severe pains in one knee, which lasted only a night. His symptoms did not improve, and he finally came to me. There was then the same condition of paresis of the extremities with paræsthesia; the knee jerk was abolished; there were areas of anæsthesia over the external surface of the legs; there was considerable static and locomotor ataxia. The eye (he had but one) was normal, and he had no girdle pains or sphincter troubles. No degeneration-reaction. Urine 1026, acid, rather dark, no albumin or sugar. Under treatment he gradually improved. Nine months later I saw him again; *the knee-jerk had returned*, and all his symptoms had disappeared.

Case 7.—Neuritis Complicating Locomotor Ataxia.—I have shown to the class on several occasions a patient who had had for a year some slight ataxic symptoms, but had been able to do his work, that of a brakeman, every day, and who believed himself to be suffering only from a paralysis of the left third nerve, which was of several years duration. One

day, not feeling very well, he took a Turkish bath, and next day was in bed with an intensely painful paralysis of the lower extremities. There was exquisite tenderness along the course of the nerves, burning feet, pronounced ataxia, and abolition of knee-jerk. The symptoms seemed to point to the development of a neuritis complicating the original posterior sclerosis, and this is an accident which I believe may sometimes occur in true locomotor ataxia.

The diagnosis of subacute multiple neuritis cannot always be made with certainty. It must be based, 1st, upon the etiology; 2d, on the symptoms; and 3d, upon the course of the disease.

Diagnosis from the Etiology.—Painful symmetrical progressive paralysis, with atrophy coming on after an attack of rheumatism, is probably neuritic.

The same may be said regarding attacks coming on in alcoholic patients. The post mortem evidence collected by Dreschfeld, Schultz, Francotte and Bernhardt shows that almost all cases of alcoholic paralysis are of peripheral origin. Some are, however, I believe, myelo-neuritic.

The paralysis from arsenical poisoning, bi-sulphide and oxide of carbon, and in some cases after the use of lead, are peripheral. The pseudo-tabes after diphtheria and in diabetes is neuritic, but glycosuria may occur in true tabes.

The paralysis and pseudo-ataxia after infective diseases, diphtheria, variola, pneumonia (*Virchow's Archiv*, Vol. 68), measles, typhoid, and occurring in the course of acrodynia and beri-beri, are neuritic.

It is not yet demonstrated that multiple neuritis occurs in children except from beri-beri, although Webber and Chapin have reported cases which appear to belong to this category.

Diagnosis from the Symptoms.—Rather sudden onset with marked pains in legs and arms, and sometimes fever, followed by rapid symmetrical atrophic paralysis, are the main characteristics of subacute multiple neuritis. Hyperæsthesia is present at first, with great tenderness of muscles and along the course of the nerves. Later tactile and thermic anæsthesia of moderate type develops.

The specially characteristic symptoms in detail are: Symmetrical ascending paralysis affecting the lower extremities most, and especially the flexors of feet and extensors of arms.

Diagnostic Electrical Reactions.—E. Remak reports a case of generalized neuritis with marked electrical alterations of non-paralyzed nerves and muscles. It was in a woman of 30 years, and followed acute rheumatism. This was followed by burning pains and numbness of the legs and arms, with intention-tremor and some atrophy of hand muscles.

Clonic movements, intention-tremor or athetosis. Muscles of face and extremities, though not paralyzed, only react to severest electrical currents and give polar changes.

Erb noted the degeneration-reaction (milder form) in non-paralyzed muscles—head paralysis (*Arch. f. Psych.*, 1885, v, p. 445). Also Bernhardt (*Berlin. klin. Wochenschr.*, 1878, Nos. 18 and 19), and Buzzard (*Brain*, 1878, vol. 1, p. 121).

Kahler and Pick found the severe form of degeneration in lead paralysis. Beiträge zur Path. u. Path. Anat. des Central nervensystems; Leipzig: 1879; p. 131. So did Kast (*Centralb. f. Nervenheilk*, No. 8, p. 137).

Kahler and Pick (op. cit.) also found these changes in a case diagnosticated at the time as polio-myelitis anterior subacuta, but which gives much such a history as that of Remak's case. Bernhardt has also described such a case (*Virchow's Archiv*, 1879, Bd. 78, p. 274). In Schultz's case of alcoholic neuritis marked diminution of E. I., but no qualitative changes.

Rapidly developing atrophy of muscles. Partial degeneration-reaction.

The usual formula being—

Faradic current over muscles—*E*, sensibility lessened; *E*, irritability lessened or absent.

Galvanic current over muscles—*E*, sensibility lessened or absent; *E*, irritability lessened, contractions sluggish. Generally in reversal of poles, but KaCC > AnCC.

Œdema is often marked, without albuminuria. The pulse-rate is high. Sphincters not involved; no decubitus. The face and eye muscles are rarely involved, but occasionally there is optic neuritis. Optic neuritis has been noted by Eichhorst (*Virch. Archiv.*, 1876, Bd. 69, p. 69); Strümpell (*Archiv f. Psych.*, Bd. 14 p. 339); Löwenfeld (*Ueber Multiple Neuritis*, 1885, p. 15); E. Remak (*Neurol. Centralbl.*, No. 14, 1885); Dana (*Brain*, June, 1887).

The burning hands and feet, the peeling of the skin of the extremities, the sometimes sharp demarkation of the paræsthesia of the extremities, are diagnostic points to be noted.

Favorable termination favors the diagnosis of multiple neuritis. The presence of degeneration reaction with retention of voluntary movement favors polio-myelitis. Localization of paralysis in physiological groups of muscles favors polio-myelitis, symmetrical ascending paralysis or poly-neuritis.

The diagnostic points in a case of Schulz's seen by Strümpell were: The multiplicity of the processes attacking the extremity nerves; high grade atrophic paralysis, with highest grade diminution of electrical irritability, without quantitative changes; the slight paræsthesia without anæsthesia; the joint affection; the absence of the tendon-reflex with presence of skin reflexes; tenderness over the great nerve trunks; pains on starting to walk; the eventual return of the tendon-reflexes and normal electrical irritability. The bladder and rectum were, however, somewhat affected.

Diagnostic signs given by L. Löwenfeld in a case of rheumatic multiple neuritis with athetosis were: Motor weakness with fever and sensory disturbance limited to certain nerves; girdle sensations and great sensitiveness of the back muscles; absence of pupillary, bladder, rectal and sexual symptoms; girdle sensations about the extremities; electrical reactions were those of partial degeneration-reaction; there was striking diminution of electrical irritability to both currents, with slight polar changes. This has been found by Brenner and Bernhardt also.

The ordinary course of an acute poly-neuritis is, according to Roger:[32] Sharp attack, with severe pains in extremities, oftenest in lower; often a fever; then paralysis, without contractures, with rapid atrophy. Hyperæsthesia is followed by anæsthesia; tenderness; electrical degeneration reaction.

Initial pains, early, marked sensory disturbances, combined with degenerative muscular atrophy and paresis of extremities, *following acute articular rheumatism*, point to subacute multiple neuritis.[33]

Some particulars may be given regarding the diagnosis of the different forms of multiple neuritis:

1. *Alcoholic neuritis* runs a less acute course, is less progressive, and the paralysis is more confined to the extensor groups. The legs alone are often affected. There is a characteristic hyperæsthesia and hyperalgesia. Cerebral symptoms are frequent. The gait in the pseudo-tabitic cases is modified from that of true tabes by the fact that, the extensors of the feet being paretic, the foot is brought down flat.

The diagnostic signs of *alcoholic neuritis*, as given by Oetlinger (loc. cit.), are: The symmetrical paralysis, almost always beginning in the lower extremities, and affecting especially the common extensors of the foot and the extensor hallucis. Bladder, rectal, facial and eye paralyses are not present. Ataxia is not constant, nor are contractures. In chronic forms there is hyperæsthesia; in acute forms analgesia. Generally there there is œdema and trophic disturbances of the skin. Tendon reflex always absent.

There are three forms: mild, chronic and acute. The prevalence in women was not observed by Oetlinger. The ataxia was static only in a case described by Lilienfeld.

Besides the points given, the alcoholic patient may suffer from central scotoma; tabetics have a more general narrowing of the visual field (Bernhardt).

Optic neuritis is seen in acute myelitis, multiple sclerosis, multiple neuritis, and alcoholic neuritis, but never in true tabes.

There are mental disturbances in alcoholic cases, and women are oftener affected.

The degeneration-reactions are temporary, and only noted at the height of the disease. The ataxia is static only in some cases. There may be rapid pulse and hyperidrosis.

In *arsenical neuritis*, a characteristic trophic disturbance is the entire shedding of the epidermis of the feet and hands. A hysterical mental condition is sometimes present. The paralysis may be motor and atrophic, or may take a pseudo-tabetic form, the last being rare.

A multiple neuritis of the sensory or ataxic form is differentiated easily from locomotor ataxia usually, by the changed electrical reactions (high grade diminution of E. irritability, with or without qualitative changes). In tabes, at the beginning, there may be an increased E. I., which later decreases without any degeneration-reaction.

There is an ataxic neuritis seen in early atrophic paralysis.

[32] L'Encéphale, 1885, No. 2.
[33] Kast. Archiv. f. Psych., 1881, Bd. xii, p. 266; and F. C. Müller, Ibid., Bd. xiv, p. 669.

The pupillary symptoms, girdle-pains, bladder and rectal disturbances are, as a rule, absent in neuritis.

There may be slight pelvic symptoms in ataxic neuritis.

The tendon reflex, though apparently absent, may be brought out sometimes by Jendressik's method in neuritis; never in tabes (Moeli).

In *post diphtheritic multiple neuritis* there are generally paralyses of the soft palate first, then general muscular feebleness, ataxia and loss of tendon-reflex. In a few cases the external eye muscles are affected, causing exophthalmoplegia externa.[34]

Subacute multiple degeneration neuritis is to be distinguished clinically from *acute ascending spinal paralysis* (Landry's). In the latter disease there is, it is true, a multiple neuritis, in some cases at least, but its cause and course, as well as the anatomical changes in the nerves, are different.

Myelo neuritis.—Multiple neuritis may be combined with a polio-myelitis, and then symptoms of both diseases may be present. Leyden, Rosenthal and Déjerine have found cases running a course like that of multiple neuritis, with, on autopsy, evidences of both neuritis and myelitis. Eisenlohr has reported[35] a case that is particularly striking. J. J. Putnam reports two cases of painful myelo-neuritis.

Central spinal lesions predispose to neuritis. Déjerine reports[36] two cases of tabes with extensive degenerative neuritis.

Illustrations of symmetrical ascending neuritis and myelitis are given by Grainger Stewart,[37] who reports three cases. The patients showed the signs of multiple neuritis with ascending paralysis, beginning in all four extremities. Post-mortem examination showed secondary degeneration of the columns of Goll and of the direct cerebellar tract.

[34] For bibliography see P. Meyer, Virchow's Archiv, Bd. 85, p. 214. Also Mendre, Neurol. Centralbl., 1885, No. 6.
[35] Neur. Centralbl., 1884.
[36] Brain, 1884, p. 558.
[37] Journ of Nerv. and Ment. Disease, 1882, p. 212.

TUBERCULOSIS OF BONES AND JOINTS.

Read before the Northwestern Ohio Medical Association, at Lima, Ohio, December 9, 1886.

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(*Continued from page 262.*)

Cases of tuberculous dropsy of the joint should, as soon as diagnosis is possible, be operated upon, as all other means will have little effect. This operation generally consists in making incisions into the joint, removing the swelled synovialis. After having washed out the joint with disinfecting fluid, dust it over with iodoform, put in drainage-tubes, etc. The idea of preventing the spread of tuberculosis from an affected joint is less an indication for operative measures than the local condition itself. Such measures, amputation especially, may sometimes be called for to cut off the dangers of septicæmia, pyæmia and amyloid degeneration of the kidney and other organs; it is indeed surprising to see the rapid general improvement of the patient following amputation.

Where we are certain of a large osteal focus or some partial destruction of the joint, we are not necessarily compelled to make a typical resection or amputation, but, thanks to the excellent effect of iodoform in such conditions, a partial resection, that is, the removal of the affected parts only, gives very satisfactory results.

A small circumscribed abscess may, after the joint is immobilized, heal spontaneously and leave a fistula only for a short time. Should it, however, be necessary to open such an abscess, the best way is to make an incision, and should you have to find your way deep between the muscles or in the neighborhood of the blood-vessels, dilate with a pair of forceps, which may be passed along a probe. After being able to introduce a finger you may scrape off the tuberculous granulations with the nail, sponge, or sharp spoon. Then, if necessary, you make a counter opening for drainage-tubes, rub in some iodoform, and apply some antiseptic dressing. Should, however, the whole joint be filled with matter, simple incisions will be of no avail, since the synovial tuberculosis is more diffuse and has a tendency to cheesy decay. We may, in cases of children, at times succeed by making large incisions and removing the affected synovialis; in adults, on the contrary, resections, or more often amputations, are the only resort.

In most cases of tuberculous fistula it would be bad practice to introduce a spoon and try to scoop it out, as we never can be certain whether we have removed all the diseased parts. It is much better in such cases to open the joint freely and remove whatever is affected with knife and chisel; this can often be done without damaging the function of the joint. It is scarcely necessary to say that this should be done by the bloodless method. After the affected bone and synovial membrane has been removed, we should irrigate the joint with some disinfecting fluid (carbolic acid, corrosive sublimate or salicylic acid), under some pressure, in order to clean it from small spicula of bone or shreds of tissue, then dry the parts and rub some iodoform into the walls of the joint. We then introduce drainage-tubes and apply antiseptic dressings, which should exercise some compression to prevent hæmorrhage after the rubber bandage is loosened. The leg should for the first day or two be kept in a raised, almost perpendicular position, to prevent loss of blood. The results in purely synovial fungus are not so favorable, owing to the impossibility of removing the capsule of the joint completely without resection of the epiphysis; typical resection is therefore the only curative way.

It cannot be denied that there are cases so grave in which local resection, right from the start, would be the best resort. But, unfortunately, diagnosis will not always come to our aid at the right time, since only when the symptoms do not improve; if pain, instead of subsiding, increases after a long course of rational treatment, our suspicion, that extensive destruction of the bones by a large granulative focus or a large wedge-shaped sequestrum are the underlying causes, becomes hardened into a fact. At such a time, then, we are generally obliged to make a typical resection or amputation. Perhaps it is hardly necessary to add that in younger patients the conservative plan should not be so easily abandoned as in older individuals, especially above 50 years of age, as it is well known that resections in children leave bad functional results; and moreover, these processes have a better tendency to heal at an early age than in later life. The fact, also, that children can better afford to sacrifice three or four years' time for treatment than grown persons who have to earn a living, should have some weight with us. But steady fever as a sign of suppuration and fistula, acute nephritis or amyloid degeneration of some organs, are, even in youth, a vital indication for resection or amputation.

A large cold abscess calls for an early resection, although amputation in most cases, especially above the age of 30 years, will be the best measure. The technique of resection should be carried out with a view to remove all the pathological parts of the joint. Long incisions, usually more than one, should be made, in order to expose all the synovial folds, as it is important to remove whatever is diseased with the knife, forceps or scissors. These incisions can generally be so managed as to obviate any transverse cut or section of the muscles, so that, if it was only necessary to make a partial resection, the function of the joint would not suffer too much by it. We should make it a rule not to remove of the bone more than what is really affected or is necessary to get free access to the diseased synovialis, in order to remove that portion fully. The latter can be removed better with forceps and scissors than with the sharp spoon. Ligaments and periosteum may, as a rule, be left intact. The affected bone is best removed in children with the knife, in adults with the chisel, saw or spoon, and we should not hesitate to leave an irregular surface where only a part of the epiphysis is affected. The bloodless method, as well as the application of iodoform, have essentially improved our results in such resections.

Tuberculosis of the Hip Joint.—We occasionally meet some slight subacute forms of this affection in the hip joint, which may recover in the course of some weeks or months after the application of ice or tr. iodine, also after the use of pulley, Taylor's splint, or Hutchinson's plan (high-soled shoe on the sound leg with a pair of crutches). But these cases have a great tendency to relapse. There are probably some small foci which do not lead to extensive infection. The majority of cases, however, are of a grave nature, as the bony parts, acetabulum and head of the femur, are generally greatly disorganized. Caries sicca presents yet a comparatively favorable prognosis, although it has, by virtue of its cicatricial atrophy, a tendency to stiffen the joint and, as it occurs principally in youthful subjects, also to shorten the limb from one-half to two inches. A conservative treatment is best indicated in these cases. A plaster of Paris bandage, as long as there is no contracture, is of great advantage. We should not forget to tell the family that a very long time is required for a cure. Taylor's splint answered very well in a few of my cases, and gave also satisfactory

results in the hands of others. Contractures are best reduced under anæsthesia, if necessary in several sittings. In the majority of cases we find cheesy granulation with suppuration. The localized abscess generally points at the front part of the joint; much less frequently along the iliopsoas muscle near the lesser trochanter, and we sometimes find great difficulty in tracing the fistula to its origin.

Of very great consequence are those cases which break into the pelvis. Resection is the only safe means to give an outlet to the matter, but it should at the same time be combined with an incision near the anterior superior spinous process. Multiple abscesses with fluctuation in front and behind the joint, as well as fistulæ that have no tendency to heal, also demand resection. The diagnosis of the grave osteal processes is difficult before they burrow into the joint. In localized foci of the neck or head of the femur, also of the upper rim of the acetabulum near the inferior spinous process, we obtain good results, without injury to the function of the joint, by careful removal.

Spontaneous luxation of the joint in these cases points to disorganization of the bony parts, principally the acetabulum; and here we need not wait for the formation of an abscess, but resect at an early time. Children, even at an age of 1½ years, seem to furnish good results after resection, and we should not feel altogether discouraged in cases even above 50 years of age. We should never neglect to remove all the diseased portions of the acetabulum or capsule of the joint. The incision is best made in a line drawn from the posterior spinous process to the middle of the trochanter, it should be made deep down to the bone and can, if necessary, be extended further. Should the acetabulum be affected, the chisel is the best instrument to remove whatever is diseased. Should an iliac abscess be the result of perforation, it should be opened below the anterior superior spinous process by a large incision, in order to free its inner walls from all tuberculous granulations, a drainage-tube may then be left in there, and one also near the trochanter. If we use iodoform, the first antiseptic dressing need not be disturbed for eight or ten days, the others can be left even for a longer time, so that we seldom have to change it more than three times before the wound is healed. Extension to the leg is commonly used in some way or other for the after-treatment.

Knee Joint.—In the knee joint we find all the different forms of tuberculosis described in this paper. Tuberculous dropsy seems to have almost an exclusive seat in this joint. As a characteristic feature of this joint we may mention that grave osteal processes even have sometimes a tendency to isolate themselves. A partition is, so to say, formed by the inflammatory tissue, almost amounting to a new synovial sac, which keeps in this way the other half of the joint intact. The diseased patella may also adhere to the femur by a ring-shaped septum. This explains why a comparatively good function is left even after a protracted course of disease. A great tendency is shown for contracture; early treatment, however, can do a great deal to prevent this. In patients up to 14 years about the same frequency is observed between osteal and synovial processes, whereas in adults osteal processes seem to predominate. The femoral condyles are more often involved than the head of the tibia. Amputation should be reserved for old people, or for patients who have a complication with nephritis or septicæmia; eventually also for cases in which the leg is so shortened and deformed that no good use can be expected from resection.

We have already seen that a number of our best authorities raise their voice in condemnation of a typical resection of the knee joint in children below 14 years. But still this is no cause for remaining idle in such cases, as a vast deal of good can be accomplished by the sharp spoon or by partial resection. These partial resections are best made by a curved incision at the inner side of the joint, beginning at the tibia near the insertion of the ligamentum patellæ, with the convexity inwards; after having reached the upper part of the joint turn towards the middle line, where you readily find the distended synovial sac. As it is necessary to get free access to the synovial membrane, another incision at the outside, in front of the lateral ligament, should be made. Very little difficulty is thus found in the removal of the anterior part of the capsule, cartilage or bone. If this is not sufficient, we may nip the ligamentum patellæ slightly, and pull it outwards; or, if necessary, cut the internal and crucial ligaments, which will give us all the room desired after flexing the limb.

A very ingenious method has been recently reported by Israel, which was followed by no less brilliant results; brilliant because he succeeded in preserving the function of the joint after having removed the capsule of the joint completely. He made a flap starting from the condyles and reaching below the tuberosity of the tibia, then by means of the saw he separated the tuberosity in an oblique direction from the tibia, so that it remained with the ligamentum patellæ attached to the flap. As the synovialis was found thickened and covered with tuberculous granulations, it was totally removed in connection with the crucial ligaments and the semilunar cartilage. After having inserted the drainage-tube, he nailed the tuberosity to the tibia. As soon as the wound healed by first intention patient was induced to use passive movement of the joint. The operation was performed in March, 1884, and patient is now about 10 years old; he can bend his leg at an angle of 100°, has full strength in its use, with no shortening and with natural shape of the joint.

Typical resections can be made by different methods. A transverse incision across the middle of the patella, and then dividing the latter with the saw, is very much in favor with some surgeons. The patella has, of course, to be wired together at the completion of the operation. In one case I followed Hahn's method, which consists in making an incision at the inner side, starting from a point as far back as possible at the line of the joint, cutting the quadriceps muscle close above the patella, and ending at the outside at a corresponding point. The advantages of this method seem to be that the wound heals faster,

as it is nowhere in immediate contact with the bone; it also enables better drainage and you get freer access to all the parts of the joint. The patella also stays better in its place, and not as many blood-vessels have to be cut as in other methods, so there is no danger of secondary hæmorrhage. Steel nails about three inches long, one end shaped like the point of a trocar and the other with a small head, are now used to unite the joint-ends more firmly. I kept my patient in a plaster-of Paris bandage with wire frame.

Ankle and Tarsal Joints.—The osteal processes seem to predominate in the tarsal joint; tuberculous dropsy is found in but a few cases. In children a sequestrum of the tibia gives a characteristic clinical picture (thickening of the tibia, fistula, and consecutive swelling of the whole joint). A cheesy, granulating depot or sequestrum of the astragalus may cause perforation into the ankle, talo-calcaneus or navicular joint, and from there extend into the different bones. Suppuration occurs frequently; we find the abscess distending the extensor muscles in front, posteriorly it is buried under the tendo Achillis. Milder forms may heal spontaneously in children, less so in adults; there some operative interference is generally imperative. Swelling below the malleoli, at the upper border of the calcaneus, points to an affection of this bone. Swelling over the neck of the astragalus, to the region of the scaphoid bone, signifies affection of the navicular joint. Taking these points into consideration and finding pain on moving the different joints, we will be enabled to diagnose with some accuracy the extent and seat of the affections of the several joints.

Treatment of the milder forms is best carried on by means of the plaster-of-Paris bandage, but if extensive suppuration should set in, we better resort to some kind of operation. Destruction has in some cases gone so far that no better choice than amputation is left us. Last year I had to amputate the leg of a young man, in which all the tarsal bones and the largest part of the shaft of the tibia were disorganized. But cases where the epiphysis of the tibia, fibula and astragalus, even part of the os calcis, are affected, quite often furnish very good results after resection. During the last two years I resected the ankle joints of two young men with very satisfactory results. In one case I excised one inch of the astragalus, one-half inch of the tibia, and left the fibula intact; the wound was healed by first intention on the tenth day, except the drainage openings. Two weeks after operation patient rode home (about twenty-two miles) in a wagon without the least discomfort. Both of the patients have now good use of their legs. I followed in this case Kœnig's method, which I enthusiastically endorse. This consists in making an incision immediately in front of the inner malleolus down to the scaphoid bone; a similar incision is made in front of the external malleolus down to the talo-navicular joint. This gives you ample scope for the removal of the bones and capsule. The same holds true in affections of the tarsal bones. I removed four years ago in a man sixty-four years of age, both cuneiform and part of the first metatarsal bones with excellent result. Last summer I had to remove, in a lad 16 years old, part of the scaphoid, cuboid, both cuneiform and first metatarsal bones; only a shell was left of all these bones. Patient suffered before the operation for three years, and is now able to walk without a cane and do some work in the field.

Shoulder Joint.—This joint is not so subject to tuberculous affections as the other joints, and we are not able to give any definite reason for this. As we have mentioned before, caries sicca seems to have quite a predilection for this joint, but all the other forms are occasionally found. In most of the cases we are obliged to resect, provided there are no distinct signs of phthisis present. About four years ago I made a resection on a man 44 years old; the joint was distended with matter; the glenoid cavity had to be scooped out, and about 2½ inches were removed of the humerus. The patient is well satisfied with the use of his arm. It is best to make the incision in front of the acromion process, along the intertubercular groove, and about four inches long.

Elbow Joint.—Osteal tuberculosis seems to be the most frequent in this joint, principally at the olecranon, less often at the condyles of the humerus, and very seldom at the radius. Conservative treatment seems to promise poor success, this seems to be due to the complicated mechanism of the joint. We should therefore not postpone resection too long, as it is almost devoid of danger, and the functional result equally as good as after protracted conservative treatment. Partial excisions in some cases are accomplishing all we can reasonably wish for. Israel had splendid results even after removing the entire capsule of the joint. The typical resection is best made by an incision about four inches long over the inner side of the olecranon; the periosteum should, if possible, be saved.

Carpal Joint.—The synovial membrane seems in this joint to be more frequently affected than the bones. So long as such affections remain circumscribed, or occur in children, a cure, although often with some deformity, may be brought about by the compressive bandage. In adults, however, where the whole joint is involved, tuberculosis of the lungs is threatened quite early. In such cases resection should soon be called into requisition. This is best made by an incision about three inches long, running, at the dorsum of the hand, from the ulnar side of the second metacarpal bone over the epiphysis of the radius. After having cut the skin, you get down between the extensor indicis on one side, and the extensor carpi radialis brevis and extensor pollicis longus on the other side, then you divide the carpal ligament and capsule of the joint. push the tissue towards the ulna, and when you get at the bones try to save of the periosteum as much as possible. In persons above 40 years, where there is extensive caries of the bones and considerable infiltration of the soft parts, running along with chronic bronchial catarrh and profuse night sweats, fever and pain, yellow color of the face, we should not temporize with any other measure, but proceed to amputation without delay.

THE CLIMATIC TREATMENT OF DISEASE.

Read before the Chicago Medical Society, February 7, 1887.

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There is probably no field in therapeutics in which the general practitioner becomes so quickly lost as that of the climatic treatment of disease. He seldom has the time or opportunities to investigate the subject personally, and what little knowledge of the subject he possesses has been gleaned from the voluminous literature written by various authors on this topic. Even this knowledge is ill-defined. There is a great difference of opinion among writers on climatology as to what should be the altitude, temperature, dryness or moisture, etc., for the treatment of various pulmonary diseases. The purpose of this and following papers will be to formulate the desiderata for climates in the treatment of various pulmonary diseases.

Inasmuch as phthisis pulmonalis constitutes the largest class of these diseases, we will first briefly note what eminent authorities say are the requisites in the climatic treatment of this disease.

I quote the opinion of Dr. C. J. B. Williams: "Our great object in consumptive diseases is to give the patient as pure an atmosphere as possible, of such thermometrical, hygrometrical, and other qualities, that it can be breathed safely and freely by him. It should therefore be free from extremes, humid or dry, and neither too still nor too windy, and its influence on his frame should be furthered by frequent exercise of various kinds carried out in cheerful sunshine, uninterrupted by rainy, misty, or windy weather. For consumption originating in septic influences, a climate of great pureness and dryness would seem to be indicated, and this is to be found at considerable heights above the sea level. In these cases a mountainous climate is recommended."

Professor Ludwig Buhl, of Munich, a high authority on tuberculosis, says: "For commencing or already established chronicity, the (I might almost say) *principle cure is pure air.* There must be plenty of air, and it must be free, properly changed, without dust, rather dry, and not subject to great changes of temperature: this latter is particularly necessary in a medium degree of moisture. The residence should be in a spot well sheltered from the wind, and on well drained soil, with large airy rooms, South of the Alps (in Europe), if possible, and during the summer, an elevation of from 2,500 to 3,000 feet should be sought. In the spring and autumn this may be changed for an elevation of from 1,500 to 2,000 feet. In winter the patient may dwell either near the sea, or at an elevation of from 500 to 1,000 feet."

Dr. J. Hughes Bennett says: "What is really required is a cool temperate climate, which should range from 55° to 66° F. during the day, and 45° to 55° at night. The air should be dry or with only slight moisture, little rain, and a clear bright sun. Such an exhilarating climate, in which exercise can be taken almost daily in the open air during the winter and spring months, is the best for the consumptive patient."

From the opinions of these authorities we can tabulate certain facts:

1. The climate must be such as to insure *pure air free from dust, or poisonous germs.*

2. Such air is more apt to be found at an elevation of 1,000 feet, or more, above the sea level.

3. There should be an equable temperature, neither too warm nor too cold, the air should be in continuous motion and yet there should be no wind storms.

4. There should be plenty of sunshine.

5. The landscape should be pleasing.

6. The health resort should be easily accessible and home comforts with congenial society easily obtained.

7. The patient should be able to take almost daily outdoor exercise without fatigue.

When patients are able to find homes in climates which nearly fulfil all these conditions, clinical observations demonstrate that consumption may not only often be arrested but cured. It is a well-known fact in mycology that a modification of the environment often prevents bacteria from thriving and multiplying, and this may account for the improvement which often follows the residence of a consumptive in a pure climate where he can take exercise. Bodily nutrition is increased, the power of resistance to disease is augmented, and the germs of consumption die. The disappearance of the disease is heralded by the improvement of the appetite and the digestion, the increase in force of the circulation, the stimulation of the respiratory functions with increase of normal oxidation and bodily heat. Thus with the improvement of the general bodily nutrition is favored that condition of the lung where there is absorption of the inflammatory exudates present in incipient phthisis, or the formation of cicatrized tissue in the later stages of the disease.

Having thus considered the climatic conditions favorable for the treatment of consumption, we wish to pass in review the claims which certain localities in the United States present as being suitable places to send consumptive patients. The first locality we will notice is

ASHEVILLE, N. C.

In western North Carolina, between the Blue Ridge on the east and the Alleghanies on the west, lies one of the most picturesque valleys in the South. In this valley is the village of Asheville. It is on the line of the Western North Carolina Railroad and has about 5,000 inhabitants. It has long been known as a summer resort, and for this reason its popularity as a health resort has not grown rapidly. But there are many reasons why it should attract the attention of the profession more. In the first place the altitude of Asheville is 2,250 feet above the sea level. The air in the summer is pure, cool and invigorating, and in the winter mild on account of the latitude. The climate is pleasant and salubrious. There is a large proportion of sunshiny days so that outdoor ex

ercise can be taken daily, except when it rains. After a rain it is not easy to take exercise on account of the clay soil retaining the moisture for some time. However, the precipitation of moisture is quite evenly distributed throughout the year, being excessive at no time. What little snowfall there may be seldom remains long, even on the mountains, and its stay in the valley may be measured by hours.

The average rainfall in inches of the different seasons for a period of eleven years is shown to be as follows:

Spring	10.1	inches.
Summer	13.5	"
Autumn	7.1	"
Winter	9.5	"
Total	4.02	"

Temperature.—The record at Asheville shows the following mean temperature for the seasons:

Spring	54.3	deg. F.
Summer	71.3	"
Autumn	55.3	"
Winter	27.2	"
Yearly mean	55.3	"

In a series of nine years the mercury did not rise above 90° F. any day in the summer. During this season the nights are always cool, permitting refreshing sleep. In winter it is very seldom that a zero temperature is reached, while the air is comfortable, dry, clear and invigorating.

Dr. H. O. Marcy, of Boston, who has personally investigated the claims of this region, says he has sent a large number of patients there with excellent results. And there is not wanting testimony from many physicians who have seen the benefits which result from a residence there during the spring and summer months.

However, there are places more accessible to persons living in the North. One point that is easily reached by Northern tourists is

MARIETTA, GA.

This village is on the line of the Western and Atlantic Railroad, about twenty miles northwest of Atlanta and 120 southeast of Chattanooga, Tennessee. Its altitude is 1,132 feet. About ten miles from the town is the Kennesaw Mountain, from whose top Gen. Sherman made the famous signal to Corse: "Hold the fort; for I am coming." This mountain has an altitude of 1,800 feet. The scenery about Marietta is delightful. For outdoor exercise one can take pleasant rambles, or can secure good livery at low figures and take the most delightful drives. If the rural scenery becomes too monotonous one can go to Atlanta, which is one of the most beautiful cities in the South. But for amusements it will seldom be necessary for the invalid to leave the village, for the proprietor of the Whitlock House, the health resort at Marietta, is ever providing for the social enjoyments of his guests by excursions, drives, etc. The air is so fresh and invigorating that the temptation to take outdoor exercise cannot be resisted. Malaria is unknown. The drinking-water is pure, as has been attested by Prof. W. S. Haines, of Rush Medical College: "The specimen of water from Marietta, Ga., submitted to me for examination, has been carefully tested and found to be of excellent quality for drinking purposes. It contains but a small amount of mineral matters and only a trace of organic compounds."

The society in Marietta is composed of cultured, kind hearted and hospitable people. And the fact that most interests the invalid is that here can be found all home comforts. It is not a place where the necessities, not mentioning the luxuries, of life are absent.

The temperature of Marietta is mild throughout the year. In 1885 the lowest mean monthly temperature was in January, 30.3° F. The yearly mean temperature was 59.4° F. During the winter of the same year there was no snow at Marietta. Snow seldom falls and only remains a very brief period. Of course this place is as yet little known, and yet it would seem to afford a place where those who wish to find a quiet home where the climate is pleasant, where the air is somewhat rare and pure, and where outdoor exercise can be taken, can live comfortably.

However, a large number of consumptives, when they go to a quiet health resort, suffer from homesickness, and become so despondent that they refuse to take the exercise so essential as a remedial measure in this disease. If they could find a locality where there is a combination of all the requisites of a perfect climate for consumptives, and also the opportunity to enjoy city life with all its attendant evidences of civilization, they could be placed under the ideal requirements for treatment. The only locality that I know of where there is the possibility of such a combination is

LOOKOUT MOUNTAIN, TENN.

This mountain has been memorable since Hooker fought his battle on its summit in mid-air, but it is only recently that it has been thought to be desirable as a health resort. For this reason we cannot give any records of temperature, humidity, etc. But it matters little, for temperature charts do not always prove to be of much value. Again, we cannot give extensive statistics as to the benefit to be derived from a residence on this mountain, but we can enumerate the features which will commend themselves to all fair-minded physicians as those demanded in health resorts for consumptives.

This mountain has an altitude of from 1,500 to 3,000 feet. The altitude is somewhat greater than that of Marietta or Asheville. The advantage in this is that it insures a greater purity of the atmosphere and increases the activity of the respiratory functions. As for the scenery that greets the eye of the observer as he stands on this elevation, it is not in our power to give you a word picture of it. Suffice it to say, that to the lover of nature are presented views of which he will never weary, nor forget. Daily rambles over the sides of the mountain disclose new beauties in the landscape, and urge one to take the wonted exercise.

The sunshine is abundant, and the temperature,

even in winter, seldom is low as is evidenced by the fact that during this winter there has been almost no perceptible snow on the mountain.

Recently there has been completed a cable railroad winding up the mountain, thus connecting it with Chattanooga. The trip from the top of the mountain to Chattanooga can be made in twenty-five minutes. This enables one to live on Lookout Mountain and transact business, attend church or places of amusement, or do shopping in Chattanooga.

Chattanooga is now a busy, enterprising city of about 30,000 inhabitants, having doubled its population in the last twelve years. Northern enterprise has invaded the city, and the result is a grand development of her resources. Wealthy residents are building their suburban residences on Lookout Mountain, and the construction of the cable road was the outgrowth of the demand for building spots on the mountain. And yet this will prove a boon to sickly humanity. It enables the consumptive patients of the North, South, East and West to go to a place where are as nearly combined as it is possible on earth all the requisites for a climate in which consumptives should live. On Lookout Mountain cottages can be built in which patients can reside the year round. The cottage hospital plan secures to their inmates quiet, purity of air, such temperature in each room as each patient demands, home comforts, especially when the patient's family is along, and independence of action. By a residence on this mountain there are secured the following advantages:

1. Purity of air.
2. A proper elevation above the sea level.
3. Equable temperature, and air in motion, yet no wind storms.
4. Sunshine.
5. Outdoor exercise, pleasing landscape, home comforts and the advantage of close proximity to a city.

That these advantages can be secured is not merely an assertion, but fact that is susceptible of proof, and in due course of time the proof will be forthcoming.

MODIFIED INTUBATION INSTRUMENTS.

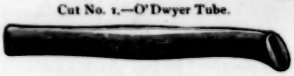
Exhibited to the Chicago Medical Society, February 7, 1887,

BY F. E. WAXHAM, M.D.,
OF CHICAGO.

I wish to say a few words this evening in regard to intubation of the larynx in connection with the specimens and instruments I have to present. About thirty years ago a new operation was proposed as a substitute for tracheotomy, by M. Bouchut, of France, and so great was the opposition to this new operation, which was styled tubage of the larynx, that a committee headed by Trousseau, appointed by the Academy of Medicine, reported adversely in regard to it, and the operation was so deeply buried in oblivion, that early operators in this country were not even aware of the attempts and failure of Bouchut.

The most earnest advocates of intubation do not consider that the instruments are perfect, indeed the operation is yet in its early infancy, and it may be years before the method is fully and perfectly developed. One of the chief objections to the operation, indeed the only valid objection, is the difficulty of swallowing, the danger caused by the falling of food and fluid into the bronchial tubes through the canula, and the too frequent occurrence of broncho-pneumonia. I would not exaggerate this danger, but certainly it is true that many patients die of broncho-pneumonia from this source. To overcome this difficulty I have had Messrs. Charles Truax & Co., of this city, modify the O'Dwyer tubes, by making them with smaller heads.

Cut No. 1.—O'Dwyer Tube.

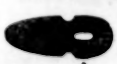


Cut No. 2.—Waxham's Modified Tube.

The tube is prevented from slipping into the trachea, by a rubber collar. (See cut No. 3.) To

Cut No. 3.

this rubber collar is attached a flap, or artificial epiglottis. (See cut No. 4.) During the act of degluti-



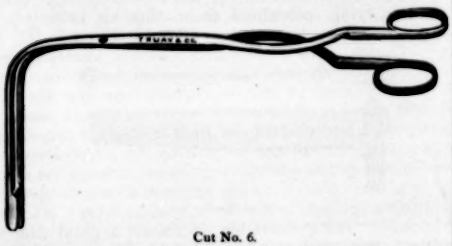
Cut No. 4.

tion the larynx rises and presses against the base of the tongue and the epiglottis, and the pressure of the epiglottis holds the rubber cap, or artificial epiglottis, over the aperture of the tube, thus preventing the dropping of solids into it, and as deglutition ceases, the larynx falls and the elasticity of the rubber throws it upwards. This rubber attachment does not entirely prevent the falling of liquids, of water particularly, into the tube, but it is of very great assistance in swallowing solids and semi-solids. I have used this modification in a number of cases with good results, and I have now a little patient convalescing from a desperate attack of diphtheritic croup, in which this modification was used.

I would also present a modification of the mouth gag. (See cut No. 5.) In the old gag the extremities are

Cut No. 5.

liable to strike the shoulder, especially if the child is not held well and is allowed to slip down in the lap of the attendant, the extremity of the gag striking the shoulder and throwing it out of the mouth. This gag passes back of the head and we avoid the danger of the gag being displaced by pressure of the shoulder. This gag was first suggested by Dr. McWilliams, of this city, and has been in the market for several months. There is still another danger that may follow the introduction of the tube, and that is the detachment of membrane below the tube, or the pushing of membrane down ahead of the tube when it is introduced. An accident of this nature occurred to me recently; a tube was passed down into the larynx and the respiration at once ceased, the child turned blue and seemed upon the point of death. The tube was at once removed, but the respiration was only slightly improved and the tube was again introduced, with the same result. It was again removed and the trachea forceps (see cut No. 6) that I have devised for

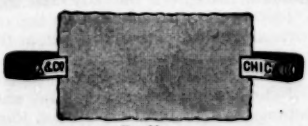


Cut No. 6.

this purpose were introduced into the mouth and a mass of membrane, a perfect cast of the trachea and the two larger bronchial tubes, removed. After the removal of this cast the tube was again introduced, and respiration was easy. Without these forceps an immediate tracheotomy would have been necessary.

In this connection I present to the Society a membranous cast from the trachea, larynx and bronchial tubes of the late Dr. Newton. This specimen is remarkable not only for its thickness and its extent but for the rapidity of its growth; it was produced within three or four days after the invasion of the larynx. The fate of Dr. Newton, whose early death we all regret most sincerely, teaches us a sad lesson; it teaches us the danger that besets the faithful physician, and the necessity of taking every possible precaution against the contraction of this hydra headed monster, this justly dreaded disease.

To those practising intubation I would advise that an ordinary rubber cot with the end cut off should be slipped over the forefinger, and then during the operation, if the gag is displaced, the finger is protected; as an additional protection, it will be well for the operator to use a respirator, (see cut No. 7.) an ordinary pad of antiseptic gauze with tape attached to secure it in place. This pad should be passed over the mouth and nostrils and should be used by the physician when inspecting the throat or when operating upon a bad diphtheritic case. I believe it is a duty that every physician owes to himself, his family and friends, to take these precautions, especially in the treatment of bad diphtheritic cases.



Cut No. 7.

NEURITIS PLANTARIS; A CLINICAL RECORD.

Read before the St. Louis Medical Society, March 5, 1887.

BY C. H. HUGHES, M.D.,

OF ST. LOUIS, MO.

This rare, painful and formidable malady of the terminal distributions of the two popliteal nerves in the foot is worthy of the physician's especial study. It comes on as the sequel, usually, of a low form of blood-depraving fever, like typhoid or protracted malarial, with typhoid-like depression, or in the latter stages of phthisis; but it may be the sequel of an exhausting, long-continued rheumatism, or possibly of a badly-managed or neglected and chronic gonorrhœa, as Ross asserts, though I have never seen this as a result of that disease. It appeared as a conjoint symptom in some of the cases of caisson disease at the time of the building of the St. Louis Bridge, and I have seen it follow upon a residence in the high altitudes of Colorado, and an attack of the so-called mountain fever of that region. It comes upon a nervous organism, shattered and tremulous, and choreic, and the painful paroxysms are agonizing. The patient cries out with pain, and often cannot rest at night, even after prolonged wakefulness, without powerful anodynes. The slightest touch, such as the application of local anodynes with the hair pencil, to the painful parts, often cannot comfortably be borne. A peculiar burning sensation, without thermometric evidence accompanies the pain. The pain is usually localized in the balls and the tips of the three toes supplied by the internal plantar nerve, and in the heel and plantar arch of the foot, but sometimes implicates also the two smaller toes, which are supplied from the external branch of the plantar nerve, the fifth toe being supplied exclusively by the external plantar, while a filament from the internal joins with the external, in giving the fourth its æsthesiodic supply.

Misleading vasomotor disturbances, suggesting erysipelas, or incubating abscess, are sometimes associated with this form of neuralgia, but in those intensely severe cases which have fallen under my observation, the feet have been pale and dry. A sour sweat has been mentioned as associated with some quite similar cases described by Ross. I have never observed this.

Poulticing does not help these cases, and the metatarsal and tarsal swelling, and fluctuation which usually follows this procedure, sometimes excites the fear of forming abscesses, but this soon subsides if the poultices are not renewed. Intense dry heat or a draft of cold air alike painful to the patient, and

the weight of the bedclothes cannot be tolerated by the toes, or even a feather pillow, sometimes, by the soles of the feet; but hot water beginning with a temperature of 100° and gradually raised from 130° to 150° is often a source of comfort to the patient. Ether and Goulard's extract give a little temporary relief, but are often too painfully cold: chloroform does better but is sometimes too burning. A paint of equal parts of chloral and camphor with morphia or belladonna is pretty well borne in some cases, and gives considerable, and sometimes complete local relief for a time. Cocaine, likewise, but is usually too painful when first applied. Iodine is not worth much, nor is oil of winter-green, and the latter after a poultice is excruciatingly painful to the patient. In fact, to precede these applications when they can be borne with poultices is apt to make them unbearable.

Wier Mitchell was the first to describe an affection similar to this but not the same, under the name of erythemomegalalgia. He regarded it as a rare vasomotor neurosis of the extremeties, and Ross, the only neurological writer, who, to my knowledge, refers to this subject, regards it as plantar neuralgia, "inasmuch as the vasomotor disorders are preceded and accompanied by some paroxysms of pain." My cases may possibly have been more exclusively neuralgic or neuritic, for there was no redness in any of them. The present case is the third or fourth well-defined case of this kind coming under my observation. They are very rare, as Mitchell says, in the description of his cases. Anstie makes no note of them, and the cases described by Elliotson, which Ross thinks were plantar neuritis from gonorrhœa, were probably cases of gonorrhical rheumatism, involving the tendonous portions of the muscles of the sole of the foot and plantar fascia.

The history of the following case is somewhat unique, and while it might be described as a newly discovered disease, I think it well to group it as only a variety of the already noted cases of plantar neuritis and tarsal hyperalgesia.

About the 1st of August, 1886, G. B., a young man of 19 years, was taken sick in the mountains of Colorado, thirty-six miles west of Gunnison, at or near Dry Fork, of Gunnison River, with a chill. A low form of fever followed, called in that section, mountain fever. He was brought to his home in Illinois. After, or about the end of the fifth week of his illness, he had sharp, lancinating pains in the toes and under the plantar fascia. The tips of the three inner toes, supplied by branches from the internal plantar nerve, could bear not the softest wet sponge of an electrode to touch them without a little flinching and only a very mild, constant current passed from these to the internal malleolus could be borne. The temperature of the foot was not above normal. The patellar tendon reflex and tendo-Achillis reflex were exaggerated in both extremities, but much more so in the left than in the right leg. No effort at eliciting the reflex phenomena was attempted till after the hyperalgesia and hyperæsthesia had disappeared from the feet.

Without fever and without evident organic lesion of the heart, the heart beats continued throughout two months of his sickness at 120 per minute, except when modified by treatment. A tenderness, on pressure, at the sacrum persisted after the pain had left his foot.

The patient was much emaciated and very feeble when he came under our observation on September 23. He had lost much of his hair and his nails were changed to a dirty brown color. The movements of the upper and lower extremities were tremulous and choreic on attempting exertion. The paroxysms of pain in the feet recurred every few minutes without exciting cause, but a touch or draft of air, or putting the feet pendant, would start the pain immediately. The pain was often in the two feet at the same time, but most frequently alternated. The most comfortable attitude the patient could assume was to flex the thigh on the abdomen, and to grasp the leg below the knee with locked hands, while lying recumbent or holding his knees up in that way.

Under a treatment which consisted mainly of rest, a liberal diet, judicious galvanism, belladonna, aconite, gelsemium, quinine, arsenic and the bromide and muriate of ammonia, with occasional doses of morphia and chloral, the patient became practically convalescent of the neuritis by the 7th of October, the pain paroxysms having ceased to recur, no tarsal or plantar pain to touch, and but a little tenderness to firm pressure remains, October 12, over the sciatic notch. The patient has increased a good deal in flesh, rests well at night without hypnotic aid, and takes a nap or two during every day, while active treatment for the neuralgia is almost entirely withdrawn. But there remains the irritable heart, a lame step in walking, to accommodate the left side, and some incomplete rheumatic and malarial symptoms have appeared. October 24, the patient was sent home for a few days, free from pain, but still walking somewhat lame, and with a pulse of 120 per minute.

On October 29, the patient returned for treatment, without pain, but still with a lame step and an abnormal heart-beat, and remained under treatment till the 4th of November, when he was discharged convalescent, with a slightly lame step, no pain, and a heart-beat when sitting, of 84 per minute. There was no history of venereal disease in this case.

A case came under my care last June not preceded by any pronounced form of fever, but by a general *malaise*, irritable heart and a masked intermittent, in which there was only restless sleep and night sweats, in the person of an old lady of 65 years, who has had a chronic stationary ovarian tumor for over thirty years, which Dr. Jesse Judkins, of Cincinnati, thought it not advisable to operate upon. This trouble was followed, on the 1st of July, with a dysentery which lasted till about the middle of September.

Dr. Elsworth Smith, of this city, succeeded me in charge of this case on the 24th of July (when I took my vacation), and the patient, by our joint advice, went East, to the sea shore. After her return, in September, the foot trouble reappeared, and was

much like one of Wier Mitchell's typical cases of erythemomegalalgia. The skin in this case was red over a certain area of the sole of the foot and the great toe, and the two adjoining lesser toes, and peeled off. The nails were not discolored, but the ball and tips of the great and adjoining toes were intensely painful. An ointment of acetate of lead and belladonna was however well borne, and this and quinine and belladonna internally gave relief. The patient is now (November 25) quite well for one of her age and other local infirmities, and has gained in flesh, appetite, sleep and strength.

There was no persisting accelerated heart action in this case. While I regard these cases as all belonging to the same category of peripheral nerve irritability from inflammatory states of the nerves or their sheaths, or conditions approximating inflammation and due to blood states, as other forms of neural pain and nerve-sheath inflammation after fevers, they may also precede, as well as follow poison or depravity of blood, and the effect is not always, nor do I believe ever, altogether spent on the peripheral nerves, though it is there usually most apparent. In the case first above described, there was pain in the sciatic on pressure, near its point of emergence, from the pelvis under the pyriformis muscle, and lower down between the trochanter major and the ischium. There was also some sense of constriction complained of about the waist, even after the pain had left the foot, so that what Ross says of this disease, viz., that it is sometimes progressive, and in its later stages may be associated with evidences of spinal disease, such as girdle pains and partial paralysis, muscular atrophy is not a future impossibility with our patient, though we shall endeavor by judicious management of the case, if permitted, to avoid so dire a result.

The efforts of pathologists have, of late, been in the direction of establishing them as febrile sequelæ, as they most usually, but not invariably are, as MM. Pitrès and Vaillard (*Reveu de Médecine*, December 10, 1886,) have lately shown in regard to post-typhoid neuritis and in regard to post-neuritis tuberculosa. They belong to the same category as those extremely sensitive states of teeth, and nails and hair roots which sometimes are seen to precede, but more often to follow, certain states of depravity—or poison of blood; the clinical cachæmias and toxhæmias.

Neuritis plantaris, as I have observed it, is seldom displayed in the constitutionally neuralgic, like sciatica and tic-douloureux, and singularly does not suddenly migrate from one branch to another of its great nerve root, the posterior tibial, or of the popliteal bifurcations of the great sciatic, in imitation of neuralgia trifacialis and other forms of transitional neuralgia. It does not even alternately pass to and from the external and internal plantar, which bifurcate from the posterior tibial, but is exclusively confined in all the cases I have seen to the digital branches of the internal plantar, extending no further outward than the distribution of the nerve to the inner aspect of the ball of the fourth toe, and the toes all seem to be more or less conjointly rather than alternately painful, as is usually the case in true neuralgia of central origin of the common terminal branches of a certain nerve-trunk. This gives it the character of peripheral neuritis rather than of simple neuralgia. But why neuritis plantaris should select the internal plantar nerve about the point of its bifurcation, and at its distribution in the toes is only conjectural. It may be due to the fact, that it is larger than the external, has more to do in the movements of the foot and toes, and is more pressed upon in standing and walking than its outside neural neighbor.

Ross, we think, has justly criticised the name erythemomegalalgia, given by Mitchell to these cases, "inasmuch as the vasomotor disorders are preceded and accompanied by severe paroxysms of pain," though the name given by Mitchell is certainly very descriptive of his own cases, as they all had erythema as well as intense pain, and the flushing over the painful area is quite characteristic in many cases, though by no means in all.

MEDICAL PROGRESS.

HYDATID CYST OF THE SCROTUM.—A case of hydatid of the scrotum came under the care of MR. PHILIP E. MUSKETT in the Sydney Hospital during the course of last summer, and as this is an example of a very rare condition a brief note will be of interest. The patient, aged 25, had been in Australia since he was 3 years old, and in a sheep district where the water was very bad for four years before the swelling appeared; this was first noticed eight years before he came under treatment. During that time it had been tapped twice, and on the second occasion also injected with iodine. When admitted to the hospital "there was an intra-scrotal tumor, about the size of a large emu egg, on the right side. It was smooth in outline and its general contour nearly oval. The tumor was tense and dull on percussion, but gave to the fingers on palpation the sensation of fluid within. There was no impulse on coughing, and it was irreducible. The position of the testicle at its posterior part was made out by the presence of testicular sensation. The cord could not be clearly defined at the upper portion of the swelling. Light was transmitted by the ordinary manner of procedure, and, finally, the history had been that of an eight years' growth: painless except from its mere weight." The cyst was tapped on the day following admission, and about an ounce of "serous-looking fluid" of pale yellowish tinge evacuated. Suppuration followed this tapping, and thirteen days later, about 6 ounces of purulent fluid were drawn off. After this pus drained away from the puncture for eleven days, than a hydatid sac partly forced its way out and was partly extracted through this opening. The sac was greyish in color, translucent, and elastic, and its sunken condition would about fill an egg-cup. The swelling gradually subsided, the sinus closed, and the patient left cured.—*Lancet*, Jan. 29, 1887.

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Journal of the American Medical Association.
PUBLISHED WEEKLY.

THE EDITOR OF THIS JOURNAL would be glad to receive any items of general interest in regard to local events, or matters that it is desirable to call to the attention of the profession. Letters written for publication or containing items of information should be accompanied by the writer's full name and address, although not necessarily to be published. All communications in regard to editorial work should be addressed to the Editor.

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SATURDAY, MARCH 12, 1887.

THE TREATMENT OF PUERPERAL CONVULSIONS.

Within the past six months several papers on the treatment of puerperal convulsions have appeared in different journals, and among the various measures and remedies suggested and praised for treating this affection, we have seen no mention of one of the most powerful means for controlling these convulsions—hypodermatic injections of morphine. It is now almost twenty years since Professor Loomis began the use of morphine subcutaneously to control uræmic convulsions. We need not stop here to discuss the pathology of puerperal convulsions, and to inquire as to the difference between them and the convulsions of ordinary nephritis. Loomis makes no distinction between them when he writes: "From the histories of quite a large number of puerperal and non puerperal cases of acute uræmia, in which morphine was successfully used, I have reached the following conclusions: *First.* That morphine can be administered hypodermically to some, if not to all, patients with acute uræmia, without endangering life. *Second.* That the almost uniform effect of morphine so administered is first to arrest muscular spasms by counteracting the effect of the uræmic poison on the nerve-centres; second, to establish profuse diaphoresis; third, to facilitate the action of cathartics, and diuretics, especially the diuretic action of digitalis." We know that in puerperal convulsions, as in uræmic convulsions of nephritis, the functions of elimination are held in check; and under such circumstances morphine may be administered with the view of "holding the patient until the normal eliminating process shall be re established."

In a recent communication DR. JOSEPH D. EGGLESTON, of Worsham, Va., writes: "I have used morphine in these cases for sixteen years, and I began its use on account of its antispasmodic effect. I was afraid of chloroform because it caused too much coma, and had tried chloral, veratrum viride, and other drugs in place of venesection, which reduced the patient so much that I was anxious to find something that would lessen the use of the lancet. By using morphine I found that I could dispense with chloroform altogether, but not with chloral, the effect of which was more lasting, and the drug could be continued indefinitely without injury to the patient. I have not had a case of puerperal convulsions for five years; and this I attribute to the use of bitartrate of potash as soon as there is the slightest swelling of the feet or legs of a pregnant woman. I have yet to find one show the slightest symptom of uræmia after beginning its use, two teaspoonsful every morning, in water. If, in spite of this, amaurosis occur, I order chloral in 10 grain doses three to six times a day, with very decided effect. In an experience of thirty-six years (thirty cases with thirty recoveries) I have found nothing equal to morphine and chloral, by which we can treat the cases without the loss of blood, and consequently with better and easier after-recovery. Morphine does not increase coma when used during convulsions; it is easy to see whether the pupils are inordinately contracted. So far from the coma being increased it will be found that in thirty minutes, at farthest, it is lessened, and in many cases the patient fairly on the road to recovery. Should I have a case of puerperal convulsions today, the first thing I would do would be to use a commanding dose of morphine and atropia hypodermatically, and give bromidia or chloral; and if this did not act promptly I would bleed. One would be surprised to see the effect of morphine in these cases—as if bringing the dead to life. It does not stupefy the patients, but renders them brighter."

Leading obstetricians seem to be agreed that chloroform is the first remedy in puerperal convulsions, some placing it above all others as a continuous remedy, others using it to control convulsions until other drugs begin to act. While formerly it was recommended that it be used in full anæsthetic doses, so as to paralyze the motor centres, it seems to be agreed, on this side the Atlantic at least, that it should not be pushed except when labor is nearly at a close; except in this case "it is advisable to restrict the chloroform to the pains, and to the restlessness which is often the preliminary to a fresh seizure." It seems to be more widely and exclusively used in

England than in this country. From the excellent work of Professor Lusk one would gain the impression that he first bleeds, then gives chloroform, and afterwards uses such remedies as chloral and bromide of potassium; but it is difficult to see the necessity for both venesection and chloroform. Most of those who advocate the use of morphine advise that it be given in small doses, though there seems to be no good reason for this; but at the same time the dose recommended by Clark, a grain and a half, seems unnecessarily and dangerously large. Smith, of Melbourne, who reports that no case of puerperal convulsions has died in the Melbourne Hospital since the introduction of the morphine treatment, gives ¼ to ⅓ of a grain hypodermatically, and says that it should not be combined with atropia; though why atropia should be left out does not appear (quoted by Parvin). This injection is repeated in a few hours, but with a smaller quantity of morphine, if the patient has another fit. Nitrite of amyl has given signally good results in these cases, but alarming hæmorrhage may ensue if given during labor. Pilocarpine has been highly recommended by a few, but the results do not seem to be very encouraging, and its action on the heart seems to contra-indicate it. Nitro-glycerine is said to be promising as a resource; but there does not seem to be very much promise in a drug which must be given in one minim doses every hour to get an effect when time is all important.

In conclusion, it seems that too little attention has been paid to the morphine treatment of these cases; and this seems to be due to the strong prejudice which has existed against the use of opiates in general cases of renal disease. It may be said that a patient is much more manageable, so far as giving other drugs is concerned, when under the influence of morphine than while under chloroform. And while chloral cannot be readily dispensed with in these cases, a patient is brought under the influence of a subcutaneous injection of morphine much sooner than under the influence of a rectal injection of chloral; and if we wish to give chloroform until the narcotic takes effect, it is easily seen that a considerable time of chloroform inhalation is cut off by using morphine. Veratrum viride has also been endorsed as an efficient remedy in these cases; though such recommendation is by no means new. Dr. Eggleston writes that twenty-five years ago, when its claims were first put forth, it was used in one case (post-partum) to the amount of 1 ounce of Norwood's tincture in three hours, but without the slightest effect. Besides its uncertainty, its safety in large and repeated doses is by no means established. It seems scarcely necessary to say that when the convulsions have been controlled, even temporarily, "every effort should be made to re-establish the functions of elimination. Digitalis is especially serviceable throughout. Active cathartics should be given without hesitation, as these are usually very efficient aids, not only on account of their eliminative action, but also because they lessen the congestion of the nerve centres," (Purdy). "As a subsidiary measure the lower bowel should be cleared out with an enema, and a cathartic (a drop of croton-oil, or calomel and jalap in case the patient is able to swallow) should be given by the mouth" (Lusk). Croton-oil is especially valuable, as it may be placed on the back of the tongue when the patient cannot swallow.

LEGAL REGULATION OF MEDICAL PRACTICE.

This is the season of the year when the Legislatures of many States are in session, and not a few of them are considering Bills, or amendments to laws already existing, having for their object the regulation of the practice of medicine. Copies of Bills or Acts have been sent to us from several States, which had been introduced into one or both houses of their respective Legislatures, but in only one instance had they been acted upon and acquired the force of law. While these numerous attempts at medical legislation show a popular desire, both in and out of the profession, to protect the people from medical charlatanism and ignorance, they show a very general failure to comprehend either the true basis for legislation, or the skill to adjust the details for obtaining the best results. Hence we invite the attention of all parties interested to the following simple propositions: 1. The only legitimate ground on which the law-making power of a State or nation can presume to regulate, or in any way to interfere with, the practice of medicine, is the presumed necessity of protecting the people from being imposed upon and injured, by impostors and ignorant practitioners. 2. To accomplish this purpose the law-making power must first clearly define, in unequivocal terms, the minimum amount of education, both general and medical, necessary to qualify a person to practice medicine; and, second, provide a reliable executive tribunal or board for determining in a uniform manner when each person proposing to commence practice has actually attained the standard of education specified in the law. The same standard of qualification and the same executive board must apply to all parties proposing to enter the profession.

For the law making or political power of the State

to attempt to recognize medical theories or discriminate between so-called schools of medicine, or in any way influence the private judgment of the practitioner, is to commit a radical error, as untenable as it would be to enact laws discriminating between the several sects or denominations in religion. Not only should there be one standard of requirements for all, but there should also be one and only one standard of eligibility for appointment on the executive or examining board, on which is to devolve the execution of the law. To proscribe one class of practitioners simply because they may be teachers in medicine, and to dictate that a certain number shall be selected professing one pretended theory of medicine and a certain number professing another theory, is a species of class legislation of the most odious character, and invariably injurious in its results. It would be entirely proper and consistent for the law to specify, for the guidance of the appointing power, that no person shall be eligible for appointment as member of the executive Board whose general and professional education has not been fully equal to the standard of requirements specified in the law, and who had not been a practitioner, and a citizen of good reputation, at least five years in the State. With this plain and fair rule of eligibility for the profession, and the appointing power vested in the Governor, with the right of confirmation in the Senate, there would be no danger of having the State Board made up of inferior men or mere theorists.

THE BENEFITS OF MOUNTAIN-CLIMBING.

As more and more attention seems to be paid each year to the climatic treatment of disease, it seems well to mention the increased benefit which the patient may receive by climbing gradual and steep ascents while seeking a renewal of health in suitable climates. Jaccoud has called attention to this in his admirable work on the "Curability and Treatment of Pulmonary Phthisis:" "Walking is not the only form of exercise which should be taken; if the character of the country is suitable, constant ascents, proportionate to the age and strength of the patient, should be prescribed. These ascents should be made with slow and measured steps, so as to occasion no fatigue to the respiratory organs, and there should be occasional rests on the way. If it is wished to expand the lungs as far as can be done, the person should be advised while climbing to place a stick between the arms, which are thrown back, and the dorsal region of the back. In this position the transverse diameter of the lower part of the chest is completely expanded, the fixed position of the upper limbs causes the whole action of the auxiliary inspiratory muscles to be combined in raising the chest, and the upper part of the lungs, whose expansion is always measured by that of the chest, dilates as far as possible at each inspiration, which is necessarily exaggerated by the effect of the ascent. When carried on in this way, such a plan constitutes a true and useful kind of pulmonary exercise."

But phthisis is by no means the only affection which may be benefited by judicious mountain exercise and climbing. In the *New York Medical Journal*, of February 26, Dr. L. Barkan, of Brooklyn, gives some very interesting information on this subject—interesting both on account of his remarks as to the value of pure air in the treatment of disease, and on account of the records of cases. The best inhalation apparatus, baths, and medicaments, he says, are of but temporary value if no compensation is made for the loss of vitality and of muscular tone, especially that of the heart and vessels; if the blood-stasis in the glands and other organs does not yield to an increased flow of blood in the arteries and veins; if the thinned blood does not become thicker and more rich in albumin; if the accumulating carbonic acid is not expelled by a more plentiful supply of oxygen; if the fat deposited in the body is not more rapidly oxidized; and if the kidneys are not made to act more efficiently. But all these effects are produced more certainly and more generally by mountain climbing than in any other way. Those who have had any opportunities for observation must know that after several weeks spent in mountain excursions the condition of the patient is changed, and radically, for the better—mentally and physically.

The cases reported by Dr. Barkan may be briefly given as follows: Man of 40 years, weight 230 pounds, circumference of waist 120 ctm., of chest 116 ctm. The first walk caused him to pant for breath so that he was almost obliged to stop every three minutes. On the second day the breathing was easier, and he had to stop every five minutes. The secretions were increased in amount, and the torpid condition of the bowels was corrected. The walk was lengthened each day. At the end of a month climbing caused but slight acceleration of respiration, which was inaudible, he could walk for a quarter of an hour without stopping, and he could climb for four hours a day. The cardiac contractions were full and strong, and he had lost the feeling of oppression and dyspnœa. At the end his weight was 208, circumference of waist 107 ctm., and of chest 121 ctm. The second was an old case of neu-

ralgia of the left facial nerve, resulting in numbness of the affected cheek. After a three weeks' excursion the numbness entirely disappeared, and has not returned. The third patient had suffered for thirteen years with rheumatism. At the end of two weeks of treatment he could climb hills, and after doing this for a week and a half his rheumatism had permanently disappeared. The fourth patient was plethoric and hypochondriacal, and had hæmorrhoids. Improvement was noticeable at the end of two weeks; after four weeks the hæmorrhoids had entirely disappeared. His weight was reduced from 211 to 185 pounds; his waist measure from 108 to 98 ctm., and his chest measure increased from 104 to 109 ctm. The fifth patient had chronic gastric catarrh. There was noticeable improvement after one week, and after three weeks the stomach was in good condition. A bronchial catarrh, which had given trouble, was much improved the first day, and disappeared on the third day. He gained fifteen pounds during his trip. In a sixth case psoriasis disappeared permanently in twenty-four days. In another case a chlorotic girl of 19, who had amenorrhœa, improved markedly in two weeks. In still another case a weak, hysterical woman, who had not menstruated for two years, was much stronger, not hysterical, and menstruated, after eight weeks of this exercise.

CRIMINAL ABORTIONS.

On this subject a correspondent makes the following suggestion: "When we shall have passed a law binding all physicians, upon their honor, to make public the desire of any person who may ask the performance of an abortion, we can then hope to check, in a measure, the wholesale murder of the unborn. Secrecy in regard to patients who come to us for advice should be sacredly observed, but the audacious insult of requesting an honorable physician to procure an abortion should be publicly resented by openly reporting the party."

It is doubtful whether an attempt to carry the suggestion of our correspondent into practice would prove either an efficient remedy for the evil or an agreeable one for the physician. Only a small proportion of those who desire to have a pregnancy aborted go to a physician and, admitting the pregnancy, directly ask him to procure an abortion. On the contrary, three-fourths of the whole number simply acknowledge that their menstrual periods have ceased to recur, and they plead for something to restore them, and render every excuse they can think of before acknowledging the *possibility* of pregnancy. A considerable number of this class, when positively assured that they are pregnant by the physician, and faithfully warned of the dangers, physical and moral, liable to result from any and all methods of producing an abortion, at once abandon all further efforts in that direction. For the physician to publish such cases would be manifestly unjust; and certainly there should be no law compelling him to do so. But admitting that the other parties persist in desiring the performance of the abortion, and the physician not only refuses to do it, but actually makes public their application, will it deter a single one of them from seeking out the professional abortionist who, for the stipulated fee, will proceed with his murderous work just as readily as though no publication had been made. The proposed law to him would be of no consequence, except in making all parties desiring abortions more cautious to seek him first instead of going primarily to the regular physician. Again, very few of those who apply to physicians for aid in effecting an abortion take a reliable *witness* with them, or consult the physician in the presence of others, and should the physician, under such a law as proposed, make public the application of Miss A. or Mrs. B., and a libel suit should follow, by whom is he to prove the truth of his public statement? We fear such a law would prove more dangerous to the honorable physician, than helpful to the cause of public morals and humanity.

OFFICIAL REPRESENTATIVES TO THE NINTH INTERNATIONAL MEDICAL CONGRESS.—It was announced several weeks since that Dr. Leopold Servais, of Antwerp, had been appointed by the Belgian Government as representative to the Congress in Washington. More recently we learn that Deputy Surgeon-General Jeffrey A. Marsten, M.D., of the British Army, has been designated a representative by his Government; and the Government of France, through the Academy of Medicine, has designated as representarives Drs. Charpentier, Dujardin Beaumetz, Léon Le Fort, Trélat and Vallin. From all directions, at home and abroad, the indications of a very large and interesting Congress are of the most gratifying character.

CONTRIBUTORS TO AND CORRESPONDENTS OF THE JOURNAL are earnestly requested to remember that brevity of style and conciseness of statement facilitate early publication. Prolixity is a great bar to publication, however interesting or valuable the communication may be.

SOCIETY PROCEEDINGS.

CHICAGO MEDICAL SOCIETY.

Stated Meeting, February 7, 1887.

THE PRESIDENT, EDMUND J. DOERING, M.D., IN THE CHAIR.

DR. W. E. QUINE, Chairman of the Committee appointed to convey to N. S. Davis, M.D., L.L.D., a formal expression of the Society's estimate of his labors and character, prefaced the presentation of the report, by a few well chosen words of congratulation to Dr. Davis on his arrival at the fiftieth anniversary of the date on which he received his diploma to practice medicine. The report of the Committee, which had been engrossed on parchment, was then read and presented to Dr. Davis, who responded in a feeling manner.

DR. J. A. ROBISON read a paper on

THE CLIMATIC TREATMENT OF DISEASE.

(See page 289.)

DR. F. E. WAXHAM exhibited

MODIFIED INTUBATION INSTRUMENTS.

(See page 291.)

DR. JOHN BARTLETT said: Dr. Waxham has given us the position of the O'Dwyer tube when *in situ*, indicating that the beveled facet on its upper extremity should present upwards and forwards. Now by several practitioners in this city the tube has been introduced contrariwise; that is with the bevel of the flange looking upwards and forwards. And this position of the tube, it is maintained by those who prefer it, has an advantage, namely, that when it is so placed, the patient's ability to swallow is appreciably greater than when it is inserted as intended by Dr. O'Dwyer. The anatomist, Professor Hoadley, prefers this reversed position. He has now introduced the tube in this manner in eight cases, and in seven of these, the patients directly after the operation, could swallow fluids without the least difficulty. Dr. Hoadley maintains that the flange of the tube as placed by him deeply within the vestibule of the larynx, in no wise interferes with the functions of the epiglottis, or the aryepiglottic folds. Confusion in regard to the proper position of the tube, has arisen here from earlier cuts of the instruments accompanying some of the cases; these erroneously represented the tube placed with its longer margin forward. I desire to say a word in regard to feeding these patients. There are reasons for believing, that by the use of a French condé catheter of proper size, introduced some distance into the gullet through the nasal cavity, thorough alimentation could be secured without distressing the child, or, a suitable stomach tube, might be introduced through a stomach tube director without greatly distressing the patient. Stress might be properly laid upon the fact that pultaceous food, as bread soaked in milk, is swallowed more readily than water, or fluid nutriment.

DR. CHARLES WARRINGTON EARLE said: I think Dr. Waxham, who is certainly the most successful in this operation, should warn the general practitioner who has had little experience, against trying this operation without some one standing at his elbow to show him just how to perform it. There are few who do it well, and I know of excellent surgeons in this city who may be trusted in everything else, but who have tried to do this operation and signally failed. And, although Dr. Waxham talks as if it was very easy, I think no person should try the operation for the first time without having some one by him who is particularly skilled. I remember very well trying to perform the operation, and I had Dr. Waxham right there. I tried my best to introduce the tube but could not, and Dr. Waxham took the instrument out of my hands and did it in two seconds. I think he should not try to make it appear so easy.

DR. WAXHAM, in closing the discussion, said: I would say a few words in regard to feeding patients. I think one of the secrets of success is proper feeding, and the attending physician should superintend the feeding of the child. He may tell the people to feed it *bread* and milk, or semi-solids, and if he investigates the matter he will find they are giving it half a teaspoon of milk with a little bread, and the milk trickles into the trachea and the bread is rejected. If they are told to make a custard they make it so soft and fluid that it will *trickle* into the trachea. It is very important that the physician should superintend the feeding personally. It is well not to give the child liquids, a small piece of ice placed in a piece of cloth held in the mouth will quench the thirst, and it should not be allowed to swallow for several hours, when it will swallow very much better than if the feeding is attempted at once. I have always made it a practice to introduce the tube with the bevelled portion directed forwards and the projecting shoulder backwards, and I think this has been one reason of my success. To me it seems a reasonable method of placing the tube because, if the higher portion is directed backwards the epiglottis can more perfectly close over the aperture of the tube than if the high portion is introduced forwards. Little or no difficulty is ordinarily experienced by the expert in removing the tube. It has been removed over and over again in two seconds, and yet occasionally, if the tube becomes turned in the larynx, or if from the small size of the tube it sinks to the bottom of the larynx, it becomes difficult even for the expert to extract the tube, and in such a case after two or three careful attempts, we should give the child an anæsthetic so as to have it entirely quiet while the extractor is passed into the tube. In extracting the tube it is best to place the finger over the base of the tongue, when the child will gag and the tube will rise to the finger and it can be caught with the extractor.

Stated Meeting, February 21, 1887.

THE PRESIDENT IN THE CHAIR.

The discussion of Dr. J. A. ROBISON'S paper on

CLIMATIC TREATMENT OF DISEASE

being in order,

DR. JOSEPH P. ROSS said: I am called upon to open the discussion of the treatment by climate of consumption, one of the most frequent and fatal diseases that afflict our race. Statisticians tell us that more than three million persons die annually of this disease. Dr. G. B. Wood, in his "Practice of Medicine," states that north of the tropics one-sixth of all deaths are caused by this disease. And upon consulting Zeimssen I find that the author of the article on consumption makes the statement that two-sevenths of all the deaths in the world are caused by pulmonary tuberculosis. Since this disease is so general, and since treatment by medicine does not accomplish as much as hygiene, which includes climatic treatment, it is very important that we discuss the subject.

In the excellent paper read by Dr. Robison at the last meeting, he quoted the opinions of three leading medical men with reference to the kind of climate which is appropriate for the treatment of consumption, and I think their views with reference to the appropriate climate, which were adopted in the paper, are correct. From my study and observation of the effects of various climates upon tubercular patients, I believe that, although you cannot say any particular climate is suitable for every case, you can say that for cases in general the air should be pure and dry, should be neither too hot or cold, should not be variable, and should be somewhat rarefied; for instance, such an air as would exist at an altitude of from 1,000 to 3,000 feet above the sea level, and lastly, the air should be invigorating, because of its containing an additional element, probably ozone. It may be that this invigorating quality is due to an *electrical* condition of the air, but I think it is more likely due to ozone. I waive the discussion of each of these elements appropriate to a good atmosphere, but will speak more particularly of different localities that are known as health resorts, and will state what facts my experience and study has taught me concerning these localities.

In the first place, I will briefly refer to Colorado. Twenty years ago I began the study of the Colorado climate. You will remember that at that time the eyes of the medical profession were turned to this region as offering the best promises for a good climate for tubercular patients. I thought that in Colorado we have a climate where there is a pure, bracing air, with an altitude high enough to secure rarefaction of the air sufficient to invigorate the respiratory functions. I sent a large number of patients there, and the following is an almost typical history of the course many of these cases took: Mrs. H. had been ailing six weeks. Her symptoms were cough, profuse expectoration, fever and night sweats. Physical exploration revealed a consolidation of a limited area in the apex of the right lung, supposed to be tubercular. This exudation did not extend much below the lower border of the second rib. Being in affluent circumstances, she was sent to Denver, where she was surrounded by every comfort and luxury. She embraced every opportunity to improve her health. In two months she returned to Chicago, her strength having improved, and having gained eleven pounds in weight. To all outward appearance her recovery seemed assured, but on physical exploration of her lungs I was surprised to find that the area of consolidation had extended until it involved almost the half of the right lung. She went to Denver again, but did not improve much. She remained there about two months and returned with the exudation rapidly breaking down, and only lived two or three weeks after her return home. I have observed this fact: that while the patients seem to improve in their general health, the exudate increases rapidly, and if softening occurs it takes place also very rapidly. This is probably due to the high altitude. I have also observed that in the high altitudes patients who have a tendency toward hæmorrhages are apt to be unfavorably affected in this way. Therefore, in the later stages of tuberculosis, the high mountains of Colorado and New Mexico are objectionable. For this reason I have carefully selected all cases that I have advised to go to Denver, Colorado Springs, Pueblo, Raton Pass, Las Vegas, Santa Fè and Albuquerque.

I next selected San Antonio, Texas, as a health resort, and sent patients there for a few winters. During the first winter some seemed to improve, but a large number of them complained that the sudden cold winds from the north, or northers, as they are called, caused severe attacks of bronchitis or pneumonia. In the spring or summer there is a great deal of malaria. But barring the northers and malaria, a great many cases do very well there, and during the months of December and January, I believe it is a very good climate for consumptives. But during the summer months the heat has too depressing an influence on the patients. While I believe that in January the patients were a little better in San Antonio than in Chicago, still they did so poorly that I stopped sending any patients to Texas.

I sent many to California, and, all things considered, I think the best climate and opportunities for treating this disease are found in California. I sent a brother, a son, and a servant boy with advanced consumption to Long Valley, California, all of whom recovered. I had quite a number of patients who recovered in the valley north of Virginia City, just below the Summit Range. And a number of my patients regained their health on the other side of the range, in the foot hills of the Sacramento valley. With reference to Southern California, probably for two months of the year it would be desirable to send patients down to Los Angeles, Riverside or San Diego, but taking that climate all the year around it is not the place, because the air does not contain something that should make it essentially invigorating; it is not light enough, and seems to lack ozone. I think patients affected with ordinary catarrh will do well there, but consumptive patients do not improve in Southern California all the year round. If one could live in the southern climate for two months in the year, and then go up into the Sacramento valley, where you can find almost any altitude, I think probably it would then be the best climate for cases of consumption in general on the continent. One objection to sending patients there is the distance from Chicago.

Afterwards I made a study of the Gulf coast and Florida, and after going all over and investigating these regions, but Florida more especially, I hold the same view in regard to that climate that I obtained when I was there last year. I visited Palatka, on the St. Johns River, and called on Judge B. and asked him what kind of a climate for consumption they have in Florida. "Well," he said, "I will express my views candidly. If you want to send your consumptive patients down from Chicago to have them put in the ground, send them along." I think the climate of Florida is a failure for the treatment of consumption, for this reason: patients go there having a cough, being debilitated by disease, and the air is balmy, and they say, what a beautiful air. They do not cough so much, but they sit around and take no exercise, for there is nothing to cause them to take active exercise. There is something lacking in the air; it does not brace one up, and I never saw a patient there that improved the least from day to day, The atmosphere is warm and moist, and very depressing, while malaria abounds.

With reference to the regions mentioned by Dr. Robison, I have investigated the climate of the mountains of Tennessee, Georgia and North Carolina, and have been to the places mentioned in the paper: Asheville, N. C., Marietta, Ga., and Chattanooga, Tenn., and I fully agree with the remarks made by the author. I think the climate of these regions is suitable for the treatment of consumption. I think it is well for us to consider the favorable features of this mountainous region of Tennessee, Georgia and North Carolina, which is called, and I think correctly, the Switzerland of America. In the first place, let us contrast the climate of that region with ours at the time of year when our climate is bad. It is in the spring from the January thaw until June that our climate is bad; the latter part of winter and spring. Now, it is a fact that at an altitude of 6,000 feet above the sea level, as at Denver and Colorado Springs, the air is too cold, and when we have bad weather here you will find bad weather in Colorado, extending from the January thaw until near June. During these months when our climate is bad, you consider the question of sending patients away from Chicago. In Great Britain and the north of Europe they consider that the bad time of the year is from January to June, and they send patients down where the Alps dip into the Mediterranean Sea and where they find the climate mild, about the same conditions of climate that we have down South. All the rest of the year we have a good climate; in fall, summer and early winter, the Chicago climate is not bad, it is only in the spring, and then you want to consider where you should send your patients. You might send them to Texas, and it may be that in January they might be a little better there, but for the whole time it does not seem to me they have a climate with which they succeed in curing patients. You might send them to California, but if you do not want to send them so far away, the other localities mentioned in this paper are good places. I endorse what was said about the favorable climate in the South. I have spent spring, summer and winter months down there, and I find that at an altitude of from 2,000 to 3,000 feet above the sea level you have a good climate, and it is near home, and so convenient that if anything should happen friends can go to the patient, or he can return home, in a few hours, which is another reason why we should think favorably of this latitude. During the past fifteen years I have had considerable experience in sending patients to these regions, and they return as much improved as I ever had them return from any other point on the continent. I have had patients go to Chattanooga when they were not able to climb Lookout Mountain, and they would come back wonderfully improved. I felt deep regret four years ago at sending a lady down there, for I did not believe she would ever return alive. I knew she could not live here three weeks, having all the symptoms of advanced tubercular trouble, with almost complete consolidation of the lung, but in four months she came back almost cured, and to-day I met her on the street, and she is to all appearances robust and healthy. The question comes up with reference to the most desirable points. Asheville is in North Carolina, and it takes a day and a half to go there; Marietta takes thirty-two or thirty-three hours to reach; while it takes twenty-one hours to go to Chattanooga. I think, as Chattanooga is a little nearer home, it would be desirable to try that point, and if that does not suit the patient he can move on to Marietta. On Lookout Mountain the scenery is perfectly grand and beautiful, and lends an interest to a residence on the mountain. The scenery is varied from every point of observation. As they have a cable railroad on the mountain, if you get tired you can run down into Chattanooga, a town of 30,000 inhabitants (and in a few years they will have 50,000), in a few minutes.

I have no personal interest in the matter, but I wish to say that Mr. and Mrs. Carter, of Chicago, have rented a most beautiful home on Lookout Mountain and will run it as a health resort. They opened our County Hospital in this city twenty-five years ago and were managing it beautifully until the war came, and then it was taken away from them; but they demonstrated their ability to manage a hospital. They have accommodations for entertaining about 200 guests, and I think it is the best place to regain health I have ever known. If the patients should tire of Lookout Mountain House, kept by Mr. Carter, they can go to Marietta in a few hours, and here is a pleasant health resort. I never passed a more pleasant week than at the Whitlock House in Marietta. Mr. and Mrs. Whitlock are the most genial host and hostess I ever met. They look carefully after the interests of their guests and provide them with every comfort.

Now, allow me to epitomize my rambling remarks. My reasons for recommending the South as a place to send consumptives are:

1. When the climate in Chicago is unsuited for consumptive patients, the climate is mild and favorable in the South.

2. The nearness of Chattanooga, Marietta and Asheville to Chicago and the North. The trip can be made in a few hours.

3. The results of a limited experience have convinced me that my patients do as well, if not better, at these points than at any other.

In conclusion, I wish to add that the reason I prefer Lookout Mountain to the other points is on account of the extent and variety of the scenery, and its proximity to a city, and greater nearness to Chicago.

DR. J. J. M. ANGEAR said: I endorse nearly all that Prof. Ross has said and most of the paper. There are a few points in the paper that I think might be amplified and supplemented profitably. The author speaks of home comforts, pleasing scenery and congenial society, and these three things, I think, demand a good deal of our attention. We are all aware of the fact that there is some truth in the old saying: "Laugh and get fat." It is an impossibility for any one to do well who is constantly under a cloud; it has a depressing influence upon the mind, I care not how good the climate. And here comes one of the greatest difficulties which we have to contend against in all diseases. Let us imagine for a moment the head of a dependent family who fears consumption. The physician advises him to leave home for a more salubrious climate, and under the pressure of circumstances he takes his departure. It may be that he begins to think as soon as he has bought his ticket: there is $25 or $100 that my children will need. This is a big load. He thinks he is going to be gone for a month or two, and he estimates what his services would be worth to his family, and if anything should happen to him his widow will need it; and this is another big load. We can readily see that it is impossible for his frail frame to bear up under these burdens. It is probable that there would be more cheerfulness at home than away among strangers, no matter how desirable these places may seem. These things must be taken into consideration. I have thought, for a number of years, that the benefit of our watering places was not from the water, but because the patient leaves home, leaves business cares and has a gay, good time. He goes to Saratoga with plenty of money in his pocket, enjoys the fine music, enters into the gaieties of the ball and the festivities of the occasion, light as a feather, buoyant as the mountain air. Sadness of heart has melted away, that patient can "laugh and get fat." There is something here for us to study, the tranquility and peace of mind so that nutrition can go on undisturbed.

The idea is advanced in the paper that in good environments bacteria cannot thrive. If they cannot thrive they are not able to do their mischief. There may be something in this which we do not understand. We do not believe that laughter will ever get rid of a tapeworm; we do not believe that cheerful society and good music will cast out or put a check upon the ravages of trichina, but we are compelled by force of circumstances to acknowledge the truthfulness of the assertion that good environments will check, if not destroy, the influence of microbes, and if we are convinced that microbes are really the cause of tuberculosis, then we want to place the patient in such an environment, which will check, if not destroy their ravages. It may be wise for us to select pure air, the right temperature, and sunshine; but unless the patient can carry contentment with him, sunshine in his soul, it would be better for him to stay at home; and unless he has abundant means so that he may not feel pinched, and can enter into the gaieties of the place, he had better stay at home.

DR. J. G. KIERNAN said: The point raised by Dr. Angear, as to the mental condition having an influence on the progress of the disease, is valid as to principle, but he has ignored the mental peculiarities of the consumptive patient. Hope has been known as a characteristic for a long time, but the suspicious element is a less known and as frequent characteristic. In removing a patient who has tuberculosis from the surroundings of his home we are doing the best possible for that patient, from a moral standpoint.

DR. R. G. BOGUE said: Some years ago it was my fortune to spend a few years in the South, the greater portion of them in the mountain regions of Tennessee, Northern Alabama and Northern Georgia; all of one winter, about six months, in Chattanooga. I can bear testimony to the wholesomeness of the entire region for the greater part of the year, and in the mountain regions for all of the year; in the valleys there are about two months in the summer season when malaria is quite prevalent, but up in the mountains it is eminently a healthy country. The air is pure, the water is good, the scenery is magnificent; there is everything to entertain and amuse one so far as scenery is concerned. The region of Chattanooga is peculiar and delightful from the variety of the mountain and valley scenery. The entire year, or very nearly so, it is practicable for people to be out of doors. During the latter part of December, all of January and the early part of February, the temperature is subject to considerable variation; it is reasonably cold and there are some storms, but after the middle of February, with the exception of now and then a short storm, the climate is delightful, extending thus through the whole summer. The altitude in the mountain region is such as to render the summer not oppressive. I fancy that for the colder and stormy portion of the winter the region south of Atlanta might be better for consumptive patients than north of the Atlanta, although personally I do not know as I was not so far south. There is Macon, and that part of Georgia fifty miles north of the coast, and extending through Georgia and Alabama to the region of Mobile. Quite early in the spring one can come northward, coming north of that range of mountains into the valley this side of the Atlanta, to Marietta, and find a delightful spring climate, with a great deal of sunshine, and a forest filled with bloom for two months in the spring, and everything, as far as climate and scenery are concerned, to delight even a sick person. There is much to recommend the region of Chattanooga to invalids, and if they are not satisfied with Chattanooga or the vicinity, there are other points, Marietta, Atlanta, and north of the Tennessee river, the region of Huntsville, and north from that as far as Nashville, so that consumptive patients or invalids

may be in a mild invigorating temperature, really all the year in the space of a couple of hundred miles.

Dr. Wm. T. Belfield presented a

PROSTATIC MYOMA—A SO-CALLED "MIDDLE LOBE" OF THE HYPERTROPHIED PROSTATE—REMOVED BY SUPRA PUBIC PROSTATOTOMY.

The patient, a man 73 years old, had for several years experienced difficulty in urination, and for nearly a year had been practically dependent upon his catheter. There was found symmetrical enlargement of the prostate per rectum, dilatation and catarrh of the bladder, and an impediment at the bladder neck to the entrance of rigid instruments. Exploration of the bladder by supra-pubic incision revealed a solid prostatic outgrowth, or "middle lobe," as large as a hazel-nut and of flattened pear-shape, springing by a short, narrow pedicle from the vesical orifice. The pedicle was twisted off with forceps and the growth removed. Recovery was uninterrupted, the fistula closing entirely on the seventeenth day. Patient has since urinated freely without a catheter, and can now almost completely empty the bladder; the cystitis has subsided.

Dr. Belfield also presented specimens of

MUCOUS CASTS FROM A CASE OF MEMBRANOUS ENTERITIS.

The patient was a nervous, rather hysterical lady about 35 years of age, who for several years had at intervals suffered from severe intestinal colics, followed in a day or two by diarrhœa with the expulsion of these casts; for several days thereafter much soreness and tenderness of the abdomen was experienced. The casts appear under the microscope as amorphous pseudo membrane enclosing cast-off epithelial cells. They are said by DaCosta to give the chemical reactions of mucin. This patient improved materially under small doses of bichloride of mercury and pills of iron, arsenic and strychnine.

Dr. Belfield also exhibited a

FOREIGN BODY FROM THE BLADDER;

a roll of chewing-gum, two inches long, partially encrusted with urinary salts, which had been removed from the bladder of a young man by Dr. T. W. Miller. The patient, suspecting he had a stricture, had explored his urethra with a well-masticated roll of chewing-gum stuck upon the end of a broom straw. When the straw was withdrawn the gum had disappeared. Acute cystitis ensued. Attempts to detect and extract the gum with a small lithotrite having failed, perineal urethrotomy was performed and the gum extracted by the finger. Patient entirely recovered in two weeks.

Dr. Belfield also presented a

FRAGMENT OF THE OCCIPITAL BONE

of irregular quadrilateral shape, three inches long and two and one fourth inches broad, its longest edge serrated for articulation with the right parietal bone. The fragment was removed by him from a young man who had suffered a compound comminuted fracture of the skull, by a blow with a sharp iron instrument which had penetrated the brain to depth of over an inch. On admission to the County Hospital over a teaspoonful of brain substance was found among the hair; the scalp and dura mater were badly lacerated. The fragments of bone were removed, the wounds in the brain substance cleansed and drained, and the scalp wound sewed up. After the fourth day the temperature remained normal; the wound was entirely healed in a month, the dressing having been changed four times during that period. The scalp is depressed over the seat of fracture, and still pulsates with the brain.

Dr. Belfield also presented a specimen of

INTESTINE COVERED WITH MILIARY TUBERCLES; DEATH FROM MILIARY MENINGITIS.

This specimen is a piece of intestine the peritoneal covering of which is full of miliary tubercles. This case was a girl about twenty years old, who had always had excellent health. Three sisters are still living, and neither they nor the parents, nor any of the relatives so far as known, have ever shown symptoms of tuberculosis. The present generation are examples of perfect health, and this girl was in many respects apparently the healthiest of the lot. Until five days before her death her health was as usual; then she complained of feeling ill one evening; her head ached; she vomited without apparent cause; she lay down, drank a cup of tea, and was all right. The same thing happened the next day, and she complained of extreme headache. On the third day, with the exception of severe headache and vomiting without cause, she maintained her usual health. The evening before her death she was at the theatre, and came home about 11 o'clock, going to bed with one of her sisters. During the night the sister was several times awakened by the extraordinary breathing of the patient, which was very hard and loud. She shook her and the abnormal breathing ceased. In the morning it was found impossible to wake this girl; she was breathing very deeply and slowly and could not be roused. Physicians were summoned and all of them pronounced it a case of opium poisoning. The symptoms as related to me were stertorous breathing, sometimes as slow as four or five per minute, contracted pupils, a suggestion of strabismus, and rather warm surface. The pulse was remarkably good, about 80, similar to the pulse of a healthy person; the skin was not moist and clammy. The physicians instituted the usual measures for opium poisoning; they gave mustard at once, and as soon as a tube could be procured pumped out the stomach. They injected minute doses of atropine hypodermically, the patient receiving about a fortieth of a grain in three injections. The breathing improved very much after these injections, coming up to twelve and fifteen per minute; the pulse also quickened; suddenly the pulse flickered and went out, and the breathing stopped.

On the following day the Assistant County Physician and myself made a post-mortem examination, which included the head and abdominal cavity only. The brain was not hyperæmic, there was no venous congestion, the pupils were widely dilated; the membranes of the brain were adherent to the brain sub-

stance, and on stripping them off and examining them there were found numerous miliary tubercles. On opening the abdominal cavity the intestine bulged out, its surface thickly studded with miliary tubercles; there was extreme tuberculosis of the peretoneum and the mesenteric glands were large and cheesy; there was a ruptured cyst of the right ovary, about as large as a fist. That the rupture was antemortem was evident from the fact that the inner surface of the cyst was intensely congested; there was a good deal of coagulated blood in its cavity. While it would be impossible to say that no opium had been taken, yet it seems probable, when we consider that the pulse was natural, that the surface was not cool and clammy, and that there was a tendency to strabismus, that her death resulted from the tuberculosis, perhaps rupture of the cyst. There was no morphine found anywhere around, and her general disposition and circumstances were such as to forbid the conception by her friends that she could have taken poison. The case seems to have been another instance of sudden coma incident to tubercular meningitis. It is of extreme interest as showing how insidious miliary tuberculosis of the serous membranes may be. The only abnormal feature known to her family was an unusual fulness and hardness of the abdomen, developed during the last year of her life.

MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA.

Stated Meeting, January 19, 1887.

THE PRESIDENT, JOS. TABER JOHNSON, M.D., IN THE CHAIR.

H. M. CUTTS, M.D., Secretary.

DR. D. S. LAMB presented specimens of

CANCER OF THE SUPRARENAL CAPSULES AND ADDISON'S DISEASE.

The following three cases are reported to illustrate cancer of the suprarenal capsule contrasted with that lesion of the capsule, viz.: cheesy degeneration, which is so usually found in Addison's disease.

Case 1.—General Cancer, attended by Drs. D. W. Prentiss and Frank Baker; in which I made the necroscopy assisted by Dr. Baker. The patient, Mrs. Rosina M., white, age 61, died September 22, 1882. The following lesions were noted at the p. m. ex. Petechiæ on anterior and inner surfaces of thighs; upper limbs emaciated; lower limbs markedly œdematous. Cicatrices of pregnancy on abdomen. Head not examined. Thoracic viscera normal except a small cicatrix at apex of right lung. Abdomen contained many soft white flakes of lymph and yellowish serum. Greater omentum contracted, thickened and contained cancer nodules. Stomach contracted to six inches in length and three in breadth; middle portion adherent to adjacent viscera and walls occupied by a thick hard cancerous mass, deeply ulcerated; the ulcerated surface was shreddy, and dark from hæmorrhage. Intestines normal. Liver small, congested and in an anterior part, showed several cancer nodules. Gall bladder much distended with bile. Spleen small, soft, firmly adherent to adjacent organs, and contained one hard cancer nodule. Pancreas and kidneys normal. Suprarenal capsules much enlarged and converted into a cancerous mass. Ovaries atrophied and undergoing colloid degeneration. Lumbar and left iliac glands enlarged and cancerous. Microscopical examinations of the several organs by Dr. J. C. McConnell of the Museum showed cancer as stated.

Case 2.—Cancer.—Woman, age 35, was five days in Freedmans Hospital, in this city, where she died. She was anæmic, constipated, urine albuminous; and had convulsions. She was attended by Dr. F. J. Shadd, of the hospital, who made the necroscopy and contributed the specimen. This consists of the right kidney which is normal; and its suprarenal capsule, which is converted into a soft cancerous mass, 4 inches by 3.5 by 3 and was adherent to liver. Renal vein and inferior vena cava were occupied by blood clots, which were closely adherent to the walls; in some places the inner coat was thickened as by incipient cancerous growth. Left kidney normal.

Case 3.—Addison's Disease.—Attended by Dr. J. T. Young; MRS. Lucy W., white, widow, age 31. tailoress. First noticed a discoloration around her mouth three years before death, that is, in 1872. This extended but little until the summer of 1874; afterwards it spread rapidly until the whole body was affected. Black spots appeared in January, 1875. The patient's previous health had been pretty good except that her monthly periods had for a long time occurred every three weeks, and were sometimes excessive in quantity. She had never been pregnant, though married seven or eight years. About the beginning of the winter of 1874–5, she began to complain of feeling week, could not work regularly, and working was followed by prostration. After January 1, she gave up working altogether. Her feet and legs became swollen; she had constant pain in her back and left side, and had dyspnœa on going up stairs. Dr. Young first saw her in March, 1875. On the 25th of that month, fæcial erysipelas set in and lasted six days. April 5, there was uncontrollable nausea and vomiting, which continued. She could take but little nourishment, had severe pain in epigastrium and constant tired feeling; sleeplessness; pulse small and weak. Died April 15.

I made the necroscopy and found lesions as follows: Face a faint yellowish-brown color, and showed many black spots from one-eighth to one-fourth of an inch in diameter, some slightly elevated, some of a uniform tint, others darkest in the centre; body and limbs of a lighter color than the face, and showed a few similar black spots. Head not examined. Abundance of fat in subcutaneous connective tissue; one inch thick over the abdomen. Right lung collapsed, congested posteriorly, contained several calcareous deposits; firm old pleuritic adhesions. Left lung similar to right; calcareous deposits more numerous and larger; adhesions more extensive. Heart flabby, contained a few small clots and a little blood. Large

calcareous mass in a greater omentum. Stomach and intestines normal. Liver extended up to third rib, was dark-red and somewhat flabby. Gall-bladder full of dark-green bile. Spleen normal. Kidneys dark. Suprarenal capsules contained cheesy masses, larger in the right. Firm adhesions of omentum, liver and spleen to abdominal wall. Posterior adhesions of uterus. Bladder empty.

The diseases to which the suprarenal capsules or as they are also called, the "adrenals" are subject, are mainly secondary to similar lesions elsewhere; sometimes by extension, by contiguity at others, by infection from distant organs. Thus we have lardaceous degeneration, cheesy degeneration, tuberculosis, cancer, embolism, abscess.

The glands may also be affected by direct violence. The only lesion which appears to cause definite symptoms is the cheesy degeneration. It is generally admitted that the disease known as Addison's disease is intimately related to this form of degeneration of the suprarenal capsules. The exceptions are very few in number.

In the first case, here reported, of cancer, the greater omentum, liver, spleen, stomach, lumbar and iliac glands and adrenals, were all involved in the disease; it is probable that the primary disease was in the stomach, the other organs being affected by secondary infection. No history is given, but there is nothing in the necroscopy to suggest Addison's disease. And the recorded cases of cancer of the adrenals rarely, if ever, do give clinical symptoms such as are found in Addison's disease. The second case is reported only to show how very large a malignant growth of the glands may become; there is no history, but it is probable that the case was one of general cancer like the first. It is interesting to note that the kidneys were not affected by the disease in either case.

The third case is a typical one of Addison's disease. As is usually the case, both capsules are involved; one is somewhat atrophied, the other enlarged; both show the characteristic yellow caseous degeneration in what was doubtless a firm whitish mass. The prominent symptoms connected with this lesion are: 1. Discoloration of skin, often but not very correctly called bronzing; 2. Progressive weakness; and 3. Nausea and vomiting. The case reported shows these well marked. The discoloration began three years before death, the woman then being 28 years old, progressed slowly at first, but rapidly during the last nine months of life. At death the whole body was of a faint yellowish brown hue, the color being deeper on the exposed parts; the abundant black spots, on which stress is laid by Dr. Greenhow, were also present. Progressive weakness marked the case more especially during the last four months of life. Instead, however, of being accompanied by emaciation, there was abundance of fat everywhere. About ten days before death the nausea and vomiting became uncontrollable. As is often the case, although the discoloration began so long before death, the other prominent symptoms were noticed only during the last few months.

The probable cause of the disease is obscure. The women's occupation, tailoress, suggests no explanation. The theory of Greenhow, that the disease is most often found in those who do severe manual labor, of course, is not supported. His further theory, that the cause may be found in the history of some strain or other injury, especially in women, is not confirmed, simply because it is not known if this woman ever was injured. Dr. Fagge, like Virchow and Rindfleisch, regards the disease as tubercular; and in this case calcareous deposits were found in both lungs and in omentum, suggesting obsolete tubercule. Attention was not drawn to the semilunar ganglia by any peculiarity of appearance; this is the more to be regretted in view of the opinion of some that the ganglia are responsible for the nausea and vomiting, and progressive weakness; it is not likely, however, that the discoloration is in any way due to them.

BOOK REVIEWS.

THE REFRACTION AND ACCOMMODATION OF THE EYE AND THEIR ANOMALIES. By E. LANDOLT, M.D., Paris. Translated, under the Author's Supervision, by C. M. CULVER, M.A., M.D., formerly Clinical Assistant to the Author, Member of the Albany Institute, Albany, N. Y. 8vo. Edinburgh: Young Y. Pentland.

The appearance of a new edition in English of Dr. Landolt's work on the "Refraction and Accommodation of the Eye," is an event in ophthalmology, and has attracted the attention of the numerous English and American physicians who frequent the Paris hospitals. This treatise may be compared favorably with that of Donders, published in 1864 by the New Sydenham Society. The author's aim, however, is different from that of the eminent physiologist of Utrecht. The book is not intended for scientists only, but seeks also to supply students and practitioners with a manual elementary and practical, but at the same time exact and complete. The author possesses the rare ability of bringing within the reach of every one questions which are too often obscure, owing to their being too learnedly exposed. The "Manuel d'Ophthalmoscopie" of the author is simply a *chef d'œuvre* of its kind. It may be asked whether this particular quality may not be found wanting in the profound exposition of a subject so vast as the "Anomalies de la Réfraction et de l'Accommodation." But the proof is before us that one can treat these complex questions, in all their details, and with remarkable clearness, avoiding at the same time not only long mathematical demonstrations, but nearly all the formulæ of inverse value, which are the stumbling blocks of so many beginners in ophthalmology.

To facilitate the mastery of a subject so vast and complex, the author has divided it into three headings: 1, the *Physical* portion; 2, the *Theoretical*, which perhaps might have been better named the *Physiological* portion; and 3, the *Clinical* portion. The first part forms an elementary treatise upon optics, which enables even a beginner to understand the ac-

tion of the surfaces and refractive media upon light, from its passage through a plane surface, up to its complicated transmission in the dioptric system of the eye. It is scarcely necessary to say that the questions of lenses and spectacle glasses meet with special attention. This section may be read with advantage even by those who are not acquainted with algebraic formulæ, as the author gives the solution of those problems also by simple construction with diagrams. Nevertheless, the reading of this chapter is not indispensable in order to understand those following it. The latter form, so to speak, a separate work, a treatise of refraction and accommodation without mathematical formulæ and therefore very easy to read.

The second part gives a description of the dioptric system of the eye and its definition. The definitions of emmetropia and ametropia, the anatomy and physiology of accommodation and convergence and their reciprocal relations.

An excellent chapter is devoted to the methods of visual examination. All the principles of optometry are clearly discussed, but only those methods of optometry which have a real practical value are described in detail. Astigmatism, both regular and irregular, are treated by the author in a manner clear and original; he may be congratulated for having condensed all that relates to this anomaly of refraction, properly so called, into a single paragraph, instead of dividing it into two headings, theoretical and clinical, as for hypermetropia and myopia, which are due to imperfect conformation of the eyeballs rather than of the dioptric apparatus.

The Clinical chapter, as might be expected from the author's aim, is the most important. If the first two sections are remarkable for their clearness and conciseness, the third commends itself by its abundance both of clinical relations, and original and judicious views of the author. The novel classification of matter above mentioned indicates, in itself, an independent thinker. Far from making an absolute distinction between ametropia as a pathological condition, and emmetropia, the only normal state of vision, the author classes as "normal" eyes the slightly hypermetropic and myopic, together with the emmetropic. Clinically these *slightly* ametropic eyes are fairly normal, and suffer little or nothing from their defects of refraction. With the medium degrees of ametropia it is otherwise, and these comprise the hypermetropic from two to four, and the myopic from three to six dioptrics. Here not only is correction of the optical defect indispensable, but what is chiefly remarkable is the difficulty of coöperation between the eyes which characterize this medium degree of asthenopia, ametropia, and find their expression in spasm of accommodation, convergent and divergent strabismus, etc. The author calls much more attention than has hitherto been paid to the relation which exists between the functions of the two eyes, on the one hand, and accommodation and convergence on the other. These have already been studied in the physiological portion of the work, but the author here indicates new methods of mensuration (Landolt's dynamometer), and enters into fuller details of a clinical order. The analysis, and the treatment of muscular asthenopia, both palliative and radical, by means of strabotomy and muscular advancement, belong entirely to Landolt. The "metre angle" first proposed by Nagel, and which is here adopted as the unity of measure of convergence, gives clearness to the descriptions, and precision to the author's methods, some of which have already been published.

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Another happy idea is the separation of typical ametropia from curvature ametropia, what the translator terms atypic aphakia, etc.

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To conclude, this work is full of new ideas and means of investigation, and operative methods devised by the author. It will be read with profit not only by students, but also by ophthalmologists, and will doubtless become one of our standard text books.

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Section of Medical Jurisprudence.

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MISCELLANEOUS.

MILK INFECTION: A SUGGESTION.—Dr. James F. Allen, medical officer to the Corporation of Pietermaritzburg, has written a very suggestive report on the causes of enteric fever in that city. Pietermaritzburg, he says, is in fair sanitary condition. It has a public water-supply, and the houses in which enteric fever made its appearance were not those in which any local condition of house construction could give rise to it. Last year this disease broke out round a small dairy on the outskirts of the town, the occupants of the farm entirely escaped, so far as he could ascertain. In this dairy specific enteritis among the calves had been very fatal; all the calves contracted the disease, and in each case it ended fatally, eight or nine dying altogether. The proprietor of the dairy states that the pasturage round his house is very unhealthy, and last year the calves were therefore kept tied up; nevertheless they did not escape the disease; but Dr. Allen notes that full-grown animals are exempt from it. As a rule, the calf disease made its appearance in this farm late in the summer, but last year the first calf must have died about the end of July or the beginning of August. Thirteen cases of enteric fever occurred altogether among persons resident in the neighborhood—one in August opposite the affected dairy, the family of the sufferer receiving milk from this source. In another house five cases occurred among a household of seven. This household did not receive milk from the suspected dairy, but they used for fuel cowdung collected in the neighborhood—not from the affected calves, for these were tied up; but perhaps from other animals suffering from the same disease. In another family two cases occurred, and in this house cowdung was also used for fuel, the source from which it came being unknown. Another case occurred in the person of an infant at its mother's breast, but this child, the mother states, received no other milk than her own. Concerning the household, no distinct mention is made of the fuel used for burning. The remaining four cases were all in one house; milk was not received by this household from the suspected dairy knowingly at the time of the appearance of the first case, but during this child's illness this dairy supplied the milk for the rest of the family, but it was at this time regularly boiled. Later, however, this precaution was neglected, and three other persons then contracted enteric fever. There is to be found in these cases nothing more than a suggestion that the bowel discharges from the animals in the dairy may have been concerned in the production of some of the cases of enteric fever in the neighborhood. Dr. Allen has omitted to state the total number of households using for fuel the material which he suspects has given rise to disease, and the whole facts are therefore not sufficiently before us to enable any positive opinion to be formed on the subject; but Dr. Allen's story is well worth bearing in mind in any further investigation into the etiology of this disease. In another report Dr. Allen insists upon the simultaneous appearance of enteric fever, among the inhabitants of the neighborhood of the farms, and the appearance of what he describes as specific enteritis among the calves. He states that he examined the mesentery and small intestines of one of these animals; that he found the mesenteric glands

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enlarged, and in the intestinal mucous membrane evidence of the same diseased action as is to be found in that of human beings after death from enteric fever—thus ulceration and patches of inflammation involving Peyer's glands are to be found in both diseases; and he asserts that the two disorders in Pietermaritzburg at least are always found together.—*Lancet*, Nov. 20, 1886.

HEALTH IN MICHIGAN.—For the month of February, 1887, compared with the preceding month, the reports indicate that remittent fever decreased in prevalence. Compared with the preceding month, the temperature in the month of February, 1887, was higher. The absolute humidity, the relative humidity, the day ozone and the night ozone were more. Compared with the average for the month of February in the nine years, 1879–1887, intermittent fever, pneumonia, diphtheria, consumption of lungs, and influenza, were less prevalent in February, 1887.

For the month of February, 1887, compared with the average of corresponding months, for the nine years, 1879–1887, the temperature was slightly higher, the absolute humidity was more, the relative humidity was much more, the day ozone was slightly less, and the night ozone was less.

Including reports from regular observers and others, diphtheria was reported present in Michigan, in the month of February, 1887, at thirty four places, scarlatina at forty-two places, typhoid fever at sixteen places, and measles at twenty-four places. Reports from all sources show diphtheria reported at twenty-two places less, scarlet fever at six places more, typhoid fever at two places more, and measles at three places more in February, than in the preceding month, January, 1887.

MICHIGAN STATE BOARD OF HEALTH.—At the 276th meeting of the Brooklyn Pathological Society, held at the Brooklyn Eye and Ear Hospital, February 24, 1887, the following resolutions was unanimously adopted.

Whereas, the State Board of Health of Michigan, has been for many years a pioneer in the investigation of disease and the collection of vital statistics, and

Whereas, the result of these investigations and of the collection of these statistics, has been to stimumen and boards of health throughout the country to undertake similar work for the public good, therefore be it

Resolved that the Brooklyn Pathological Society heartily endorses and commends the course so admirably planned and so efficiently followed by the State Board of Health of Michigan, and respectfully but earnestly, appeal to the legislature of that State to be liberal in its support to its State Board of Health, and to widen its influence and usefulness by appropriating the necessary funds to establish and maintain a Laboratory of Hygiene.

NEW MEDICAL JOURNALS.—*The Journal of Obstetrics and Gynecology* is the Anglicized title of a new Russian medical journal, the organ of the Obstetrical and Gynecological Society of St. Petersburg.

The *Revue Générale de Clinique et de Therapeutique*, the first number of which appeared on February 17, is a weekly which, according to the preliminary notice, will be on the plan of the *London Medical Record*.

CAPITAL PUNISHMENT BY ELECTRICITY is now proposed, and is receiving favorable consideration by a legislative commission appointed by the New York Legislature to inquire into various devices for putting murderers to death.

"PILOCEREUS SENILIS" is the title of a volume of the collected writings of the late Dr. Walter Moxon, of Guy's Hospital, which has been recently published by Sampson Low & Co., of London.

VACCINATION IN AFRICA.—Archdeacon Farrar, of Magila, writing from East Africa, says: "We have just saved the whole district of Magila from an invasion of small-pox, vaccinating everybody, at the rate of about fifty a day, until all have been vaccinated; so that while other districts have suffered considerably around us, there has not been a single case of small pox in the Magila district with its hundreds of villages, and thousands of people. This, of course, has commended our medical science to the people, and they come in numbers."

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM FEBRUARY 26, 1887, TO MARCH 4, 1887

Major Chas. R. Greenleaf, Surgeon, ordered for duty in the office of the Surgeon-General of the Army. S. O. 41, A. G. O., Feb. 18, 1887.

Major D. L. Huntington, Surgeon, relieved from duty in the office of the Surgeon-General, to take effect March 1, 1887. S. O. 41, A. G. O., Feb. 18, 1887.

Major David L. Huntington, Asst. Surgeon, ordered for duty at San Diego Bks., Cal., and granted leave of absence for one month from March 1, 1887. S. O. 45, A. G. O., Feb 25, 1887.

Capt. Robert H. White, Asst. Surgeon, on being relieved by Major Huntington, to proceed to Angel Island, Cal., and report to commanding officer for duty at that point. S. O. 45, A. G. O., Feb. 25, 1887.

Capt. Louis S. Tesson, Asst. Surgeon, ordered for duty as attending surgeon at hdqrs. Div. of the Missouri and examiner of recruits at Chicago. S. O. 44, A. G. O., Feb. 24, 1887.

Capt. Wm. W. Gray, Asst. Surgeon, leave of absence for seven days extended twenty-three days. S. O. 13, Dept. Dak., Feb. 21, 1887.

First Lieut. Chas. F. Mason, Asst. Surgeon, resignation accepted by the President, to take effect March 25, 1887. S. O. 44, A. G. O., Feb. 24, 1887.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE U. S. MARINE HOSPITAL SERVICE FOR THE FIVE WEEKS ENDED MARCH 5, 1887.

Guitéras, John, P. A. Surgeon, granted leave of absence for twenty-one days. Feb. 28, 1887.

Pettus, W. J., Asst. Surgeon, to proceed to Charleston, S. C., for temporary duty. Feb. 28, 1887.